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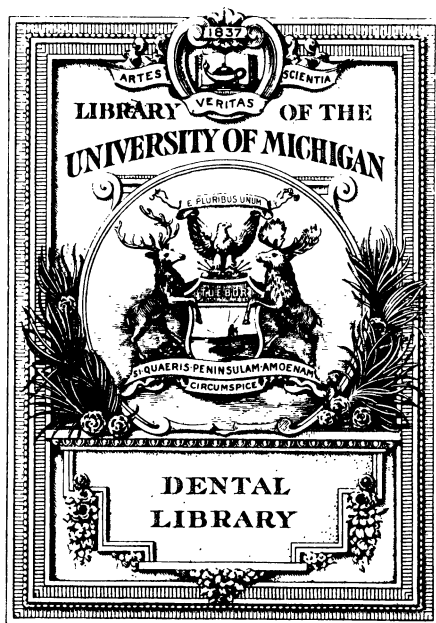
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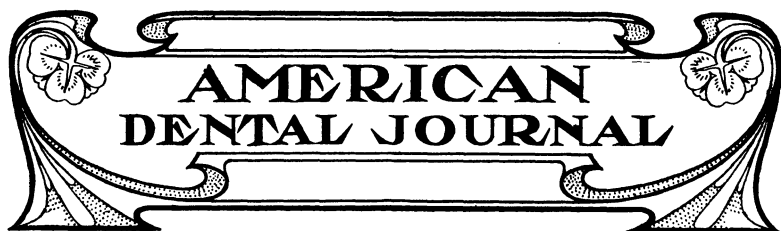
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## PORCELAIN INLAYS.

(By F. Ewing Roach, D. D. S., Professor of Porcelain Art,  
University of Illinois.)

### CHAPTER IV.

After securing a satisfactory matrix the next step is to select the colors of body to be used, and for this part of the operation there can be no set rules. The success of this part of the work is largely a matter of personal equation and the degree of perfection attained in matching a given tooth depends wholly upon the experience and ability of the operator to select and manipulate the various colors of body with which he is working. The following rule will apply in most cases: Build the foundation of a yellow or brown and build upon this the layers of lighter colors, such as the light yellows, grays, blues, etc., blending them to correspond with the tooth being filled. Equally good results may be obtained by using the white foundation and toning down with a darker layer between the foundation and enamel or surface layer. In some cases where a very translucent effect is desired the latter order of placing the colors is advantageous. The white foundation reflects the rays of light back through the enamel and intervening color, which yields a translucent effect not to be obtained when using the darker colors for foundation.

In carrying out the color scheme in inlay building the following general rule will obtain: Use dark yellow or brown cervically, gradually blending into lighter yellows and grays toward the middle and blending out to incisal edge with light grays and blues. It must be borne in mind, too, that to produce the true color as indicated by the shade guide, the body must be properly fused. Also that the thickness of the layer is an important factor. As an illustration we may select an exact color by the point of shade guide, which, we will say, is a millimeter in thickness, but in building on the layer of that color we are sure to vary the thickness one way or the other, and just in proportion that we make it thicker will the inlay be

darker, or thinner will it be lighter. Providing, of course, that it is not affected by the underlying color and a perfect vitrification is obtained.

Another important and very annoying factor that must be considered in this connection is the color effect imparted by the cement. This element alone is the great bug-a-boo and has caused more trouble and disappointment in our harmony of color than all the other difficulties combined. Indeed, our greatest need to-day in inlay work is colorless cement. In other respects some of the cements we are using at present serve our purpose admirably. In view of the fact that the cement invariably darkens the inlay, it should be made slightly lighter.

Having procured the colors to be used, we proceed now to build the inlay. If it be a small, simple cavity, two bakes will usually suffice. In such cases, the matrix should be filled quite to the margins with a foundation body as near the color of the tooth as possible and given the first bake, after which the second or enamel layer should be built up just a little full to allow for the shrinkage. In building the more complex inlays three or more bakes will be required.

The matrices that are most likely to warp in baking are the large restorations in molars and bicuspid, where cavity walls are nearly perpendicular or at right angles with the floor of the cavity. The shrinkage of the body in baking will surely draw these walls in cavity-ward and unless some means of overcoming this tendency is resorted to the result will be a very poorly adapted inlay. Of the various measures used to abort this difficulty I have found the method suggested by Dr. J. W. Wassall to be the most effectual. At his suggestion Mr. Brewster has made up some small porcelain rods of high-fusing material, which are intended to be ground to fit into the matrix, so that the rod bridges from one wall to the other, thereby preventing the warpage of matrix. The same results may also be obtained by breaking up any old tooth and obtaining a sliver sufficiently long to meet the requirements of the case in hand. The piece to be used should be as small as possible, as a large bulk of high-fusing porcelain within the body of the inlay tends to weaken rather than strengthen it. The rod should be fitted to place and the foundation body carefully packed around it. If this part of the work has been properly done the matrix will show no signs of warpage after the first bake, and while the body will show considerable

shrinkage, the rod will have become securely anchored and the inlay may be completed with but little danger of alteration of the matrix.

Before passing this part of the subject, a word about the manipulation of the bodies may not be amiss. In the first place, absolute cleanliness must be observed throughout the entire operation. And especial care should be taken to avoid the contamination of mineral substances and metallic oxides, such as coal dust and rust from steel instruments and the like. Another precaution to be taken is to burn off, by holding the matrix in the bunsen flame, any foreign matter, such as saliva, blood or small particles of food that may have become attached while burnishing in the mouth before building in the body. The necessary equipment for this part of the work consists of a glass slab of liberal size, a mixing spatula, carving instrument and tweezers, two camel's hair brushes, a pipette and some pieces of white blotting paper, cottonoid or linen cloth.

A drop or two of water should be placed upon the slab and sufficient powder incorporated to make a stiff putty-like mixture, and after thoroughly spatulating the body is ready to be placed and packed into the matrix. The body should be picked up with a flat pointed instrument (the carver serves the purpose well), or with a small camel's hair brush, and as each bit is placed it should be well packed by tapping the holding tweezer, and to hasten drying the moisture should be taken up with small pieces of blotting paper. Before making each bake, make a close examination of the matrix to see that none of the body has gotten on outside, as the slightest amount will very materially interfere with refitting in the event of a second burnishing or in the final adjustment for observation of contour and color. Any particles of body that may escape through a torn place in the matrix or elsewhere must be carefully and thoroughly removed with the camel's hair brush before baking.

The first bake or foundation is usually made of one color, and as it is always within the matrix walls there is no difficulty in placing and packing, but when we come to contour work, the building becomes more complicated. We are now handling two or more colors and while we are placing these in their respective places with reference to blend and harmony, we must at the same time restore the natural contour. To get the proper blend where several colors are to be used and baked as one layer, it is best done by placing the cervical portion first, and before it gets dry place the next color so that it overlaps the first, and by a few taps on the holding tweezers they will run together just enough to properly blend them, and so on until all the colors of that layer are placed.

(To be continued.)

## OPERATIVE DENTISTRY.

By R. B. Tuller, D. D. S., Clinical Professor of Operative Dentistry,  
Chicago College of Dental Surgery.

### CHAPTER VIII.

#### EXAMINATION OF TEETH FOR CARIOUS OR OTHER DEFECTIVE CONDITIONS.

All examinations should be conducted in some systematic manner that will preclude the possibility of overlooking carious or other conditions needing the attention of the dentist.

As a rule we might begin with any one of the third molars and take up each tooth in succession until every one has been inspected, remembering that each tooth has five surfaces to be looked over.

In doing this work a printed diagram representing every tooth in the mouth should be at hand on which to note every defect in a way to be understood when patient is not present.

The first entry should be the date and the name and address of the patient, followed by any history that may be obtained regarding any particular lesions or defects about the mouth necessary to a full understanding of all conditions that might be a matter of question at some future time. An abscessed condition of some tooth may be found, for instance, which, perchance, has been treated by another dentist. All the history should be noted down. It is easy for the patient to forget and at some future day confound your work with a previous operator's. It is easy for the dentist to forget, also. A little record in black and white of conditions in existence when one begins a series of dental operations (frequently dragging out, from one cause or another, longer than expected) often proves an important thing.

Besides being a record for future reference, a diagram of this kind is very useful to consult each time, as one progresses with the work to be done, obviating repeating examinations when one forgets from time to time the exact location of cavities, etc. If the examination diagrams are not filed, all important notations should be transcribed to the record of finished work.

The instruments required for examinations, to be properly equipped—are delicate, fine pointed, spring tempered exploring instruments, a plain and a magnifying mouth mirror, and some floss silk, preferably not waxed. Three exploring points are desirable,



one with a single bend and the other two crooked, one to right, the other to the left. The mouth mirror enables the operator to see surfaces of the teeth not directly visible, and also reflects light which in itself detects some cavities that exploring instruments fail to discover. The translucency of tooth substance frequently reveals hidden cavities when properly lighted up. I might say right here that a small electric mouth lamp is a brilliant adjunct to the examination or diagnostic outfit. Very inexpensive ones are on the market which are run by a little dry or storage battery, which will last for such work for months and the battery can be renewed for a trifle.

Nothing so surely and positively shows a "dead" tooth in the mouth as this little lamp placed behind the tooth in question. The difficulty of determining whether an antrum is involved with some abscess of the alveolus is greatly lessened with an electric mouth lamp. When the room is darkened and the lamp placed in the mouth, with lips closed, the light shows through the face very clearly, and a diseased antrum shows in marked contrast by the opacity of the location.

The floss silk is excellent to detect cavities between teeth that are not visible. Pulled back and forth it will quickly roughen up or cut if a cavity is there.

In addition to these things so far enumerated, an orange wood stick whittled to a wedge may be used in many instances to gently force the teeth apart, thus bringing to view cavities not otherwise visible, and permits the introduction of the explorer.

In the use of exploring instruments the fine points will find cavities, especially in fissures not visible to the eye. It is a rule almost without exception that the dentist finds more cavities in teeth than the patient is aware of, and often, with some people, suspicion is aroused that more are being found than exist. For this reason and to have a fair and clear understanding at the outset, particular pains should be taken to satisfy the patient in regard to them. It is usually a satisfaction to those even who trust the dentist implicitly, to see for themselves, or feel, the obscure cavities they had not suspected. If these precautions are not taken the operator is not infrequently doubted when work is finished and itemized, for rarely can a patient tell how many teeth are being worked upon or how many cavities are filled. A cavity that is not visible

at all when the tooth is wet with saliva may be plainly seen when the tooth is dried and light reflected upon it.

When exploring for cavities it is well also to carefully and gently trace along under the free edge of the gums for serumal deposits which, in initial stages, are not apparent through visual observation.

There are affected conditions about the teeth that are not yet cavities which call for very close inspection, and if in one's judgment they are left to some later period for filling, the examining tab and diagram should have such notation made as will be understood in the record kept. The reason for this is that it would explain cavities that occur so frequently immediately or within a short time after we have taken care of everything that we supposed needed filling. If left until a later period the patient should be advised. Some of these places are white and some dark, running from brown to jet black. In my experience I have found that these dark spots at the contact point between teeth will almost invariably soon develop into cavities, while similar spots which were once in contact with a tooth that has been extracted seem to become immune, for many years at least. When the skin, so to speak, of these spots—usually hard and dense and sometimes polished—is once broken, the inside is found soft and chalky, and a cavity once begun enlarges to the extent of the chalky condition in a very short time. This accounts for some cavities coming in a comparatively short time after the mouth may have been pretty thoroughly attended to in the way of filling. A note on our examination tab explanatory of the condition shows that it was not overlooked, but that our judgment was to leave it until a future time, patient being advised.

In many cases the white spots, also chalky under the outer layer, will linger a long time before breaking down. These spots, both white and dark, are not to be confounded with such superficial decay as we grind out, for instead of being superficial they usually run deep into the tooth tissue as before explained. What we mean, generally, by superficial decay is a spot that may be ground or disked slightly, leaving a healthy polished surface behind. Any attempt to grind or disk the white and brown spots would simply break the outer layer and hasten the development of a full-fledged cavity. It is good practice to treat these spots with hot paraffine when we leave them. Place a little paraffine wax on the spot and melt with a heated burnisher. Of course absolute dryness must

be obtained first. Parafine may be used in superficial cavities and the little pin point cavities in fissure and often found specking occlusal and sometimes other surfaces by the half dozen or more. The hot parafine penetrates the softened tissue and interferes with the progress of decay for some little time. Where cavities can be thoroughly dehydrated decay may be sometimes checked in children's teeth in this way when we cannot do anything else. After all moisture that can be has been absorbed by cotton or spunk, dehydrate further by saturating the cavities with chloroform or absolute alcohol. Absolute alcohol can be made by taking 95 per cent alcohol and putting a few shreds of gelatine into the bottle. Alcohol will not soften the gelatine, but the gelatine takes the 5 per cent of water out. After it has remained in the alcohol for months it may appear to be swollen some from the water; then it may be removed and a fresh quantity introduced. This is a digression from the subject (but is good practice) suggested by finding them in examinations, and puzzling to know, many times, what to do with them.

In a great many cases examinations are not carried out with the exactness and care outlined in the foregoing pages, for time may permit to make only hasty observations; enough to determine what is to be done at the next appointment, but thorough examinations should be made at the earliest opportunity. It goes without saying that no proper examination can be made without first removing deposits if any are observed.

Examinations involve, or should, observation of all the conditions of the mouth. Sores and patches should be noted and the nature of them determined if possible, so that we may apply or prescribe remedies if within our province to treat, and doubly guard ourselves and other patients from infection. Of course all up-to-date dentists use all reasonable precautions constantly, but with evidence of an infectious disease or a generally disordered mouth extra precautions should be taken.

Every dentist, I presume, has some patients, limited in means possibly, who come in and say: "Doctor, I have one or two teeth to be filled and that is all," and if a regular examination is attempted they will say, perhaps: "O, now I don't want you to go probing around looking for more, for the cavities indicated are all I want done." It may be a matter of low finances with some, but with many it is, "Sufficient for the day is the evil thereof," and they don't

want any teeth filled that has not got well defined holes and have begun to threaten trouble. They don't seem to want to be advised of the fact that there are plenty of other cavities, rapidly growing larger. With them no cavity is to be filled until they can stick their tongue into it or get a few reminders that putting-off has about reached the limit. It is hard to make some people understand (or if they understand, to heed) that it is economy in every way to have teeth examined often and cavities filled while they are small, and certainly before the pulp is disastrously involved and aching. It is surprising in this day and age of the world that there are so many people who never give any care or attention to their teeth until trouble comes and they hustle around to some dentist to get relief from agony.

Of course it remains for the dentist to educate the people along lines of proper care of the teeth.

(To be continued.)



## DENTAL THERAPEUTICS.

By Geo. W. Cook, B. S., D. D. S.

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### CHAPTER VIII.

The discussion of the destruction of pulp tissue by means of pressure anaesthesia is a subject that has called forth a great deal of discussion and practical demonstrations, and much has been said with regard to the most practical method of applying the drug to obtain the best antesthetic effect, losing sight many times of the pathological lesions that exist in the pulp. You hear it said by many that they practice this method almost exclusively and very seldom have any failures. It very seldom happens that a pulp that is to be removed is in a perfectly healthy condition. Of course this may occasionally happen.

We have previously spoken of the various changes that take place in the pulp when the process of dental caries approaches the pulp tissue, that there is always established the phenomenon of stimulation. In living tissue, like the pulp, the protoplasm seems to be endowed with an enormous multiplicity of vital phenomena which is in accordance with the composition of living substance.

Since we recognize that the irritability of living substance and its capacity of reacting to changes in its environments by changes in the equilibrium of its matter and its energy, therefore in the living pulp when brought in close relation with such external stimuli as bacteria, the changes that are spontaneous in the vital phenomena of the pulp when acted upon by certain stimuli, like bacteria and their products, are of various kinds. The quality of the tissue structure may remain unchanged, while a quantitative change may take place. The variety of stimuli that arises from the destruction of tooth substance may bring about a variety of phenomena in the living protoplasmia of the pulp tissue; and if secondary deposits of inorganic salts is not the result of such stimulus there is probably an over-stimulation which results in the lessening of the properties of irritability of the protoplasmia, thus lessening the prolongations of the pulp and in this way inhibit the local anaesthetic, which we have heretofore stated was a protoplasmic poison and that it effected the action of the protoplasmia of the end organ, and in this

way it brings about the anaesthetic effect, or, in other words, destroys the irritability of the protoplasmia.

As bacteria in their chemical activities approach the pulp in a way that the vital phenomena of the pulp is but slightly disturbed, there is that adaptation of the tissue structure which accustoms the living substance in a way that it is capable of resisting any form of poison, especially the chemical stimulation. Therefore, under these various pathological changes, under such conditions, the cell protoplasmia has taken upon itself the power of resisting or preventing the cell from taking in certain chemically formed poisons.

By carefully reviewing the chemical formula of cocaine and then taking into consideration the complex structure of living substance it will be readily understood how the sensory nerve endings and the irritability of the protoplasmia itself as found in the prolongations of the pulp may become absolutely incapable of responding in an anaesthetic way to such agents as are usually adopted for the destruction of the irritability of the pulp tissue.

Many theories have been advanced as to just what chemical changes take place when living substance is passing from the living to the lifeless state, and when we consider that protoplasmia has been rendered incapable of reacting to external irritation it has then passed into the state where nutritional activity has ceased, and if kept for any length of time in that state the vital phenomena will soon cease. Therefore, when the pulp has been rendered incapable of responding to touch, if retained in that state for any definite length of time its vital function will not return.

Whether or not cocaine will hold the irritability of protoplasmia in subjection long enough to cause absolute death or not is yet an unsettled question. It has been observed in the use of strong solutions in the eye that it will produce a certain amount of opacity of the cornea. This, however, would indicate that it does have the power of rendering living substance inactive long enough to cause death of certain cell tissue. I have observed in a number of instances that the anaesthetic properties did not last over ten to fifteen minutes, while in a few instances the pulp remained anaesthetized for an hour.

I am inclined to believe that where the anaesthetic properties remain for such a long time that it is hardly possible that the pulp ever returns to its original physiological activity, especially if there

is any infection in the pulp tissue; for there is no doubt but that if there are present any infective micro-organisms that cocaine anaesthesia will materially assist in the infection becoming more active, while the tissues are under an anaesthetic effect they have lost a great deal of their resisting power, owing to the arrested condition of the leucocytes in the circulating blood. In fact, cocaine has the power of acting on the amoeboid movement of all protoplasmic structure possessed of such physical qualities as enables the protoplasmia to take on its chemotactic properties and move towards an offending agent. Cocaine, therefore, is possessed of a chemical property that enters into protoplasmia and readily suspends its functional activity to the extent that micro-organism possessed with such qualities as to enable it to destroy the physiological activities of the protoplasmia of the higher forms of cell life.

I followed out a series of experiments in animals which conclusively demonstrated that micro-organisms of an infectious character would more readily and easily bring about abscess and various forms of infection when the inoculation was made in that area that had been thoroughly cocanized before the infectious material was placed in the tissue; and upon microscopic examination of the tissues after inoculation had been made it was found that there were not present the leucocytes that were found to be present in the controles that had been treated in the same way, with the exceptions of the tissues being anaesthetized before the inoculation was made. This will account very largely for the conditions that will oftentimes make their appearance after the extraction of teeth and various other minor surgical operations that are performed in the oral cavity.

Infection invariably follows the extraction of a tooth when done by the use of a local anaesthetic, and especially cocaine alone, unless the greatest possible care has been exercised in the preparation of the part before the injection is made, and unless the utmost care is taken after the extraction has been made. Many have attempted to suspend cocaine in a solution containing some agent of an antiseptic nature, but it is a well-demonstrated fact that the irritating properties of all antiseptic solutions that we at present know anything about are materially increased when accompanied by a solution of cocaine. Therefore, we can readily make a field susceptible to the action of pathogenic micro-organism.

We have previously stated that many of these agents that are at

present in use as antiseptics act more deleterious upon the protoplasmia of the higher forms of life than it does upon those low forms that have a wonderful resisting power to foreign agents. Therefore, it can readily be seen that when pressure anaesthesia is applied to the pulp and the tissue has become thoroughly anaesthetized, utmost care must be exercised in the excavation of the cavity, thus by mechanical means remove all bacteria; then wash the cavity thoroughly with an antiseptic, and with a sterile broach remove the pulp. Unless all of these precautions are taken into consideration there is great liability of carrying infection beyond the apical end of the roots, and in this way infect the tissue so that a serious infection may take place, simply because the tissues around the apical end of the root are in a state of anaesthesia at the time when the offending agent is allowed to become the inhabitant of the part.

There was introduced by Schleich a method of anaesthesia which for a time was looked upon as very safe and would accomplish the same end as that of introducing protoplasmic poison. His method was to take a rather large quantity of a one to two per cent of cocaine containing a little morphine, and with a very fine hypodermic needle slowly introduce into the tissues, sometimes as high as 100 c. c. of the solution; the part will become odemetous and swollen. The author claimed that the anaesthetic condition was due to a mechanical pressure on the cells of the tissues, and that the protoplasmia took up a certain quantity of the solution by ambition. Heinz recommended that an eight-tenths of a normal sodium chloride solution be used instead of using distilled water, without adding to the solution small quantities of morphine as recommended by Schleich. But later investigations has demonstrated that the anaesthetic property of all these solutions is due to the cocaine.

There has been introduced into the profession an artificial alkaloid that has seemed to have gained considerable favor. This is a synthetic product and is looked upon as being very much less deleterious when used for anaesthetic properties. Its poisonous effects is nothing like as great as that of cocaine.

There are two products that are very similar in action and comes from the same source as an artificial product. They are known as alpha-eucaine ( $C_{19} H_{27} NO_4$ ) beta-eucaine ( $C_{15} H_{21} NO_2$ ). When these substances are taken in sufficient quantity they at first stimulate



the central nervous system, which is later followed by paralysis; the pulse is very slow, which is possibly due to the direct action of this agent on the cardiac muscular fibers which causes the lowering of blood pressure.

Experiments have demonstrated that these agents in many instances have almost as great an anaesthetizing power as cocaine. It is said that the alpha-eucaine causes considerable pain at the time when injected because of its irritating properties, while the beta-eucaine seems to be free from this quality, and consequently has gained more favor as a local anaesthetic.

This last named agent can be used very freely in a one to a two per cent solution of the hydrochlorate. At the present time we are not aware of anyone having acquired the eucaine habit. There is very much in favor of the eucaine preparation for injection because of their less poisonous effects. Dr. Charles Tuller has made the most extensive report on the use of eucaine in the extraction of teeth of any one that we are aware of. It has not been as commonly used for pressure anaesthesia; in fact, I know of no one who has made anything like an extensive study of its practical application for this particular kind of work. I, myself, have tried it a few times and did not obtain the results that I usually do in the use of cocaine.

Tropacocaine is an alkaloid that resembles cocaine in many particulars. However, it is less poisonous and is more rapid in its anaesthetic effect, but the duration of the anaesthesia is very much shorter than that of cocaine.

Orthoform has been introduced as a local anaesthetic. This agent differs very much in its chemical structure to that of cocaine, belonging apparently to the aromatic derivative. Eimhorn and Heinz has called attention to the fact that all the so-called Esters compound of the amidooxy-acid of the aromatic series is possessed of some anaesthetic properties. Therefore, orthoform gets its anaesthetic power from this source. It is a white powder, but slightly soluble in water, and is practically void of any poisonous effects possessing some slightly antiseptic properties. Its internal use has been restricted almost entirely to cancer and painful ulcerations of the stomach, where it has given great relief in such cases. Its application to burns, ulcerations of the skin or mucous membrane is of extreme benefit. For all minor operations in the mouth where there is pain following, orthoform is an agent that merits first at-

tention. Where teeth have been extracted that required considerable laceration of the soft parts orthoform possesses very beneficial effects in relieving the pain in such cases. It has no anaesthetic effect, so far as I have been able to observe, in anaesthetizing the pulp for immediate extirpation.

There are several other natural and artificial cocaine that have not come into use because of their difficult preparation and extraction, so at the present time we have to confine ourselves almost solely to cocaine and eucaine. At present we have nothing that equals cocaine in pressure anaesthesia. And in pressure anaesthesia we have all those things that have been previously spoken of as factors that must be taken into consideration, the conditions of the pulp, the extent of infection that is in the organic substance of the tooth, and how they interfere with the physiology of the part in a way that prevents the action of the anaesthetic. What is true of the pulp is also true of other tissue in which a local anaesthetic is to be injected.

(To be continued.)



## PROSTHETIC DENTISTRY.

By B. J. Cigrand, B. S., M. S., D. D. S.

(Professor of Prosthetic Dentistry and Technics of School of Dentistry, University of Illinois.)

### CHAPTER VIII.

#### ARTICULATION AND OCCLUSION.

It would be of great interest to recite the progress that anatomists have made in their study of the mechanism of mastication, but suffice is the statement that for two hundred years the medical and dental practitioners have been struggling with the problem and are gradually conceiving the principles which govern this divine ordination.

To one of our noble craft the world owes much of its information on this subject of articulation and occlusion, Dr. Bonwill of Philadelphia, who was enthusiastic in his gnathomic study, deduced many valuable ideas in this relation, though he was much in error as regards the masticatory operations, still in many particulars he was correct, and he deserves great praise for having directed our attention to the careless and non-anatomical manner in which the artificial dentures are constructed. I am proud that I received personal instruction from Dr. Bonwill regarding the method he advocated in arranging artificial dentures. Though I do not now agree with him in the major portion of his deduction, I nevertheless revere him for having been the cause of stimulating and directing my study.

The subject of mastication is one which is of greatest possible concern to both the operative and prosthetic dentist, since assurance of success is only possible when a complete mastery of the subject of mastication is reached, and this happy era has not yet arrived, though we are patiently laboring to attain complete knowledge of this most complex of all mechanism entering into the human economy.

This theme is one in which we ought to be profoundly interested, not alone in the genus homo, but in the entire animal kingdom, since a thorough acquaintance with the process of eating and philosophy of mastication can only come after a diligent study of comparative anatomy. I will not burden you with the theories relating to the evolution of the present perfect masticatory apparatus of man,

though I emphasize the necessity of close observation of the habits and foods of the lower animals, and through this source become more familiar with the required tooth forms in the human family.

You will observe that I differentiate between the terms "process of eating" and "philosophy of mastication." Now, I believe that all animals having teeth eat, yet not all animals having teeth masticate. To me the word mastication means the process of cutting, grinding and crushing of food; and this word according to such inference relates most happily to man, since his jaws admit of the functions of cutting, grinding and crushing. The word philosophy in connection with this paper pertains to the architecture, movements and force of the human jaw.

This article is intended primarily to show that the ordinary articulator, which allows simply a ginglymoid movement, does not admit of reproducing nature and consequently yields distinguished failures. I am imbued with the idea that artificial dentures as generally constructed are decidedly abortive and do not thoroughly fulfill the purpose for which they are intended, and the time is coming when this old-time ginglymoid articulator will claim the consideration in prosthetics that the turnkey holds in oral surgery. It will be a thing of the past and serve simply as a milestone in the evolution of dentistry.

If we hope to advance in our calling we cannot stand idly by and disregard nature. If we wish to make a success of this grand division of dentistry we must copy after the normal. There can be little doubt as regards the inefficiencies of the artificial dentures which admit of only the hinge or ginglymoid movement; disregard for the normal mastication has lead the practitioners to grow indifferent to nature's requisitions, and the result is that the public which is compelled to employ these artifices pays the penalty for violation of nature's laws.

Many practitioners offer as an argument that the patients do not appreciate the worth of artificial dentures allowing of accurate jaw movements; besides, the same dentists claim the time devoted to so laborious a task is not sufficient compensation. To the first objection we answer: If the dentist will instruct his patrons in the importance of lateral movements of the jaw and incidentally point out the value of teeth possessing these possibilities, the patient will anxiously accept the judgment of the dentist as deserving of recognition.

There are people in every section of this great land who, if con-

vinced of the utility of perfect artificial dentures, would eagerly pay any multiple of our national currency. Though, strictly speaking, the subject of price has little bearing on scientific results.

If we copy after the pattern furnished by nature we cannot go far astray and thus render the most humanitarian service. We must set up fewer clandestine models or patterns, for, after all, the most aesthetic and generally the most useful is indexed in the book of Providence.

(To be continued.)



# ORIGINAL CONTRIBUTIONS

## TOOTHsome TOPICS.

By R. B. Tuller, D. D. S.

No. 4.

"Ach! Mein Gott in Himmel! Vas you der dentist?"

"I am. How can I be of service to you?"

"Vell, I vish you vasn't home."

"Then you don't wish to see me?"

"Ach, Gott yes; und ach, Gott no. I vish you vas gone away."

"Well, I don't exactly understand what you mean."

"My old vomans sent me to you. You taken out some tees for her. Can you hybnotize anyone, Doc?"

"I don't make any pretentions in that direction, but I might us if you want."

"Vell, dry quivick, before I roons away."

"What is the matter—an aching tooth?"

"Yah, von, dwo, six, seven. Dey vas all chumping. Ach!"

"Will you be seated and let me look at them?"

"Vell, I tinks I comes to-morrow. To-day I don'd feel vell. I didn't not sleeb goot las night. I feels better to-morrow."

"Perhaps you won't sleep well to-night. Better let me see what the trouble is and what I can do for you."

"Dere you vas, Doc, drying dot hybnot pisness. My old vomans tolt me. It don't vork. I don't got no toosache now. You didn't hybnotize it. You shust schare it away."

"It will come again fast enough, I fear, if you go away."

"Shure, Doc; I know dot. I comes up las' night und der day pefore und my teese vas boompen to peat der pase trummer in der prass pand. Boomp, boomp, shust like dot. Ven I see your door dot vas enough; der boompen sthop like der trum machor shooken his sthick for to sthop. Dis feller rightd here vas ter trum machor, dis eye toot. He start and sthop der whole pisness. I don't got away a block pefore he sthart oop der whole pand on rack-time. Efery toot vas gitten in his vork, und dot trum machor he git ox-

cited und he toos his sthick high oop and low town between his laigs den virl it round his neck und vaist like dizziness. Und dot pase trummer in dot pig toot he don't got left behind, not much; but he blay dot racktime vis bose hands like he vas fighting a swarm of pees and vas gettin all sthung oop, boompety, boompety, boomp—boomp—boomp; shust like dot. Ach, mine Gott! Doc, it vas hal vit hot cinters in efery breath."

"And do you want to go through all that again to-night?"

"Himmel! nit, nein, neffer. I dond vant it, but if dot trum machor up in here shooken his sthick den it vas off—nein, all on. Der whole ting sthart off again. Ach, Doc, he vas begin to do piness some more now. Himmel! Und it vas rack-time again. Dunder and blitzen! I vish you wasn't home, Doc."

"But I am home and we might just as well get at it and snatch that drum major and rag-time bass drummer bald-headed right now. We'll bust up the band. Please sit down here."

"Yah, Doc, dot vas a goot schemes. I like to kill dot trum machor. He vas too gay. I like to *kick* him."

"Well, sit down here."

"Who, me?"

"You, of course; who else?"

"Now?"

"Right now."

"Say, Doc, don't you got some oder appointments. I can wait. I tink I shust remember I gotter go and see a man. I come pack to-morrow, Doc."

"No, to-morrow won't do. Come, you know it has to be done, get right at it *now*. It won't be half as bad as you think."

"Vell, I tink two million, und half dot, Doc, is some pigness. Say, I come to-morrow."

"No, now. Sit down here."

"Me?"

"Sure."

"Py gracious, Doc, I vish you would hybnote me. Gif me some ghloroform. I vas shaken like a leaf. If you vant to cut my laig off den I march oop like a soldier mans. Chiminetty! I hates dis like pullen tees."

"Come on here and sit down."

"Yah, dot's easy, but I like sometimesh to stand oop. Did you efer haf some toos pulled out, Doc?"

"Sure, hundreds of them."

"So? I tink you vas tole a lie, or else you vas a shark."

"Well, I exaggerated a little, to be sure; but you've got to get to business, for it is near my closing time."

"Vot dime you close?"

"Five o'clock."

"I vish I didn't come until fife fifteen."

"Well, will you get into the chair?"

"Who, me?"

"See here, I'm getting tired of this."

"I vas tired long time ago. Vell, chiminetty! here goes. Ach, Gott! I vish I had somepody to holt my han's—und my laigs."

"Never mind that. Open your mouth. Why, those teeth are all loose. They'll all have to come out and you'll have to have some plates made."

"Yah, I know dot. I vant some blates made dot vont ache. Gracious! I vish I didn't come till after fife. Vill it hurt, Doc?"

"Not much, they are so loose. If you hold still I'll have it all over in one minute."

"Seven tees in von minutes?"

"Easy."

"Easy. Dot's easy for you, maybe, but it vas hardt for me, don't it? I guess yas. Vell, it's got to be done. I vill shust shut my eyes und you got 'em quick, und maybe I dond know it some."

"All right; shut your eyes, but open your mouth."

"Who, me? Vell, led me got a goot holdt of der chair. Say, Doc, aindt it after fife o'clock? If you vant to close oop I vill wait. I come to-morrow—next week—any oldt time. I don't got no ache now. Dot tam trum machor has gone round der corner to got a trink maybe, und dot pase trummer he vas gone to sleep. I know you vant to go, Doc. I von't keep you. Come on, I help you close oop."

"No, you sit right there. Put your head back and open your mouth. Come, now."

"Vait a minute. Say, Doc, don'd you tink ve could safe dose teese und put pridges on 'em?"

"No, sir. No more talk. Open your mouth."



"My gracious goodness! You aindt goin pull em? Ach, Gott! Say—ach!—ach!—ach!—ach!—ach!—ach! Wow! Is dot all? Say, dot vas a quivick pisness. By Chiminetty! Doc, don't you tink I stood dot goot?"

"O, you are a hero."

"Yah, if I had two dozen more I get 'em all pulled. Let me look at 'em, Doc. Vich you tink vas der trum machor? Dot pig feller is der one vot haf der pase trum. Boomp, boomp, boomp—nit, not no more. You tam trum machor schalawag, you go haf a fit now if you like. You don't start no more rack-times in my mout. Vell, Doc, how much for der chob?"

"Seven dollars."

"Seven dollars. It vas vorth ten. I make it ten, Doc. Dere is your money. It vas a goot chop vell done, und I vas glad you vas home. Ven shall I come to get some blates made? How do you make 'em sthick up, Doc?"

"Why, the lower plate falls into place, but the upper one we have to tack up to the roof of your mouth."

"Dot vas a choke. Vat's der matter mit screws? Vell, you get der chob anyway. You vas a peach, Doc. Make me something goot to chew mit. Ach, Gott! all I can now do is to bite vind."

"You can bite soup."

"O, yah, und peer. I go get some now. Good-bye."

(To be continued.)



## ORTHODONTIA FROM THE STANDPOINT OF THE REGULAR PRACTITIONER.

By Dr. Burt Abell, Albion, Mich.

(Read before the Southwestern Michigan Dental Society Sept. 9-10,  
1903.)

In these days of awakened interest in Orthodontia and its intelligent practice, the thoughtful dentist is seeking to find his proper relation to the subject and to determine just how much of this work he shall incorporate in his regular practice.

No doubt the ideal way is outlined by Dr. Angle, than whom there is no greater authority. He contends that the Orthodontist should be a specialist devoting his time exclusively to this fascinating branch of dentistry. That all cases presenting in regular practice should be referred to him as the one best fitted to do the work, but, of course, to-day, with but one exclusive specialist in orthodontia in Michigan, and but three in Chicago and not a dozen in the world, that is impossible. Dr. Angle prophesies that the time will come when every city of 20,000 will have its Orthodontist profitably employed.

Without doubt the number of specialists will rapidly increase in the near future, and it is to be hoped they will, for the need is great as any one of us may prove by noticing the next ten or twenty cases that present themselves in our regular practice, taking them as they come one after another. But until that time does come and specialists are within our reach, the few of us who love the work and are willing to assume the responsibility must do the best we can to give to the rising generation that heritage of complete masticatory privileges and physiognomic harmony that is their due.

There are three points to consider in the solution of this problem.

- 1st. The dentist's adaptability.
- 2nd. His equipment.
- 3rd. The time that can be devoted to the study and treatment of cases.

We know that not every man is adapted to this particular phase of dentistry and such should not attempt it and should feel perfectly free to refer cases to one who can successfully handle them, even though he may be conducting a general practice as well. I quote Dr Ottolengui when I say, "It is, perhaps, but human for us all

to imagine that we can pronounce a ripe opinion upon all questions that may arise in relation to the teeth. With the broadening of the scope of what was once included under the term *dentistry*, this is no longer possible. Already general practice is breaking up into specialties, and it must not be forgotten that the specialist must of necessity acquire special knowledge.

We naturally conclude that the man who acquires that special knowledge is fitted for that special work whether or not his entire time is devoted to it, and we shall all be doing both ourselves and our patients justice to refer to him for service along the line of his special investigation.

Neither should we feel it a reproach or a reflection upon our ability as dentists to admit we do not know it all. The subject is too broad. If one may love to take the human face divine marred by a jangling row of ivory and with the magic of his touch bring order out of chaos and beauty out of ugliness, and to the unseemly lend the image of his maker, another can feel equally honored in building from the wreck of things a similitude at least of what once was and a monument to his ceramic skill.

Assuming, then, that the regular practitioner for a few years must attend to these cases, what shall be our equipment? It's briefly summed up in what the old darkey calls the "know how."

Every college is giving to its students a course in Orthodontia more or less thorough, but we older stagers must look elsewhere for our knowledge of the subject. There are a number of works, like Farrar, Talbot, etc., on the subject, but it has been reserved for Dr. Angle to systematize the matter and bring within our reach an orderly array of facts and rules in his work, "Treatment of Malocclusion of the Teeth and Fractures of the Maxillae." So far as I've been able to discover, we are indebted to him for first recognizing that great underlying principle, *occlusion*, and the effect of the interlocking planes of the cusps in preserving or destroying proper occlusion. Every dentist owes it to himself to become familiar with this, for it is the same that underlies the permanency of his operative work and the success of his prosthetic. I believe no one should attempt the most simple cases in Orthodontia until this has been mastered. Paranthetically, let me say in this connection that for those who desire there is open to a limited number a

five weeks' course in the Angle School of Orthodontia, beginning Nov. 16th next.

In these days men are going back to basic principles and in the presence of so much irregularity they are inquiring the cause. The well equipped recognize that the keynote to the situation is the first permanent molar about which we have heard so much lately. Right here let me say that there is material enough with this tooth alone as



the subject for a good many papers, but in passing I want to add my protest to the pernicious practice of extracting this most important of all teeth. No one who aspires to do perfect work in regulating can do without it, and however well a case may look to the uninitiated, when, regulated with these teeth absent, to the skilled eye there are defects that are blighting and irreparable. As proof see any article advocating extraction of this tooth and note the models shown.

Mitchell of London, in advocating extraction of first permanent molar, gives as the only tenable reason that decay is caused by lateral pressure and extraction gives more room for better contoured fillings. The only answer needed for that is that the occlusal planes, when in proper relation, keep the teeth in proper relation and no crowding results, hence a minimum of decay.

About the most weighty reason for its retention is its physiognomic value. It is fully erupted at a time when the deciduous teeth are but caps resting on gum foundations, and if extracted the bite is shortened and a corresponding approximation of nose and chin follows. Nor is this all; ultimately there is really a crowding of the teeth that takes place instead of a separation, due to the pressure

of the cheek and lips acting on the row of teeth deprived of their interlocking keystone plants.

It is claimed that with the first permanent molar out the second moves forward and takes its place. There *is a tipping* forward of the second molar, so that its disto-occlusal angle is presented to its antagonist and the patient is not only deprived of the masticatory surface of the first molar, but one-half or two-thirds of the second as well; and, worse still, there is a retrograde movement of all teeth anterior to the first permanent molar with the consequent bunching of these teeth and the faulty facial expression. The firm chin is never present with the first permanent molars gone. If we note the wonderful adaptability of the process to position of roots of the teeth and bear in mind the constant pressure of the cheeks and lips one can readily see how this retrograde movement takes place.

Attendant upon this shortening of the arch is the lessened room for the tongue below and the difficulty in enunciation and the diminution of the vault of the palate with the consequent loss of resonance of the voice. Bogue makes the statement that Patti would never have been heard from had she lost her first permanent molars at the age of eleven or twelve years.

Too frequently the case presents with first permanent molars in badly broken down condition, but even then extraction should be the last resort. We have a great task before us to educate the laity to the fact that the first permanent molar is not a "baby tooth" and "didn't matter." Have you noticed that in the majority of cases it is in the mandible that we find the greatest destruction. Dr. Angle contends that the lower arch is the matrix over which the upper is formed, hence the more important. Dr. Cryer in his "Internal Anatomy of the Face" says, "Inflamed condition in the jaws of children occasioned either by abscessing teeth or by constitutional disturbances will cause the deposit of secondary bone within the cancellated tissue, binding it to the U-shaped cortical portion, vascular excitement inducing activity of the osteoblasts, which causes the deposit of the secondary bone making difficult attempted movement of the teeth. In such cases when the time for the eruption of the second and third molars arrives it is impossible for the cancellated tissue and the erupting teeth to glide forward. Many cases of impaction of the third molar are doubtless due to the existence of these conditions.

Frequently neurotic disturbances baffling to the physician are caused by these impacted molars come under the province of the orthodontist. Truman of Philadelphia is responsible for the statement that the treatment of such cases may be condensed into the word *room*. This might at first blush seem an argument in such cases for extraction of first permanent molar, but Truman further says, "There is, therefore no question in my own mind that dentists are called upon to watch carefully the development of the second molar in childhood, and advise the *only* remedy—*free lancing*."

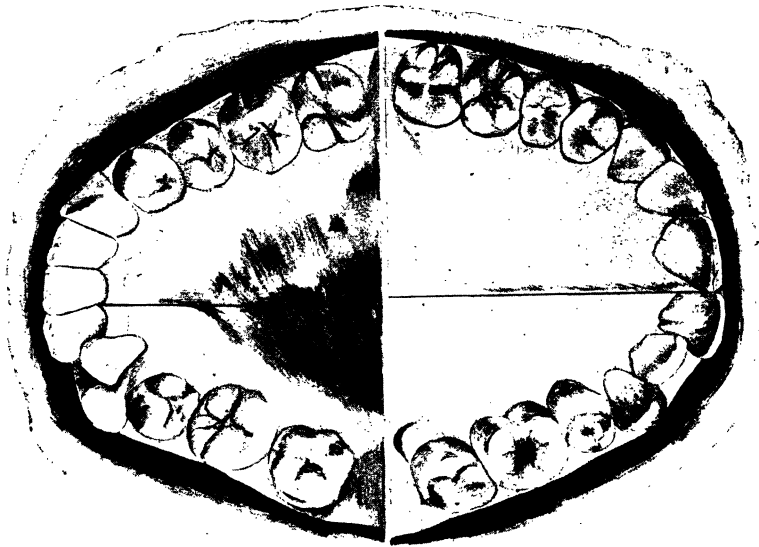
The well equipped will recognize any malposition of the first permanent molars and correct it at the earliest date possible. I dare say every one of us have had anxious mothers present their children six-seven years old to us for correction of irregularities of the teeth and what have we told them—wait till 12-13 years old. I shall have to plead guilty, and so must many of you, I know, and what did we hope to gain? All the permanent teeth in place. But we must remember if at 7 the first permanent molars are in proper occlusion the rest of the teeth will, other things being equal, drop into their proper places and proper occlusal relations be established on the start, while if regulation is delayed till 12 years old *all* the *teeth* presumably must be "jumped" to get proper occlusion if the first permanent molars are allowed to remain in either distal or mesial occlusion up to this time. Surely an operation that will not justify postponement, though we may find the seven-year-old patient more difficult to manage in the chair and more impatient under the strain.

Just one more point under this head of equipment. One who is attempting to regulate teeth must also recognize the importance of preserving the deciduous teeth in place till they have served their purpose of preserving space in the maxillae for the incoming bicuspid and anterior teeth. Too often the cases present with distal cavities in second temporary molar making a funnel for decomposing food to be forced down upon the gum, causing recession and also decay of mesial surface of first permanent molar.

Lastly, the element of time for study of and attention to cases presents itself. Of this every practitioner must be his own judge, but it is safe to say one should never attempt a case where every step of the way has not been studied out and planned for before an appliance is adjusted. Surprises are bound to occur, but if plans and appliances have to be changed materially before the completion

of the case there is a consequent increase of pain to the patient and loss of confidence in the skill of the operator. The latter a *most important* item in the operation.

Dr. Ottolengui suggests one contemplating making a specialty in Orthodontia to devote afternoons and Saturdays to this work and mornings to general practice, as a majority of those requiring attention are busy in school.



To sum up, then: The ideal time has not arrived when we can refer all our cases to the specialist and so must attempt our own cases if we are adapted for the work. .

Next, if we attempt such cases we should be equipped by reading a course in special school if possible, and the performance of simple cases till we recognize the foundation principles of perfect occlusion, especially as it depends on the preservation of the first molar and the deciduous teeth till the latter have served their purpose, and, lastly, the allotment of our time so cases may have proper study and attention.

## RESTORATIONS OF DISTURBED PALATES.

By B. J. Cigrand, M. S., D. D. S.

(Read before the Southwestern Michigan Dental Society, Sept. 9-10, 1903.)

Of late there has been a revival of interest in matters pertaining to methods calculated to restore or correct cleft palate cases. The literature of our profession indicates a deep concern in this direction, though for the most part the papers read before dental gatherings treat the subject from the standpoint of the surgeon. Now it is my purpose to call your attention to the shortcomings of the surgical method—in so far as this method does not comply with the laws and functions of nature. But before directing any attention to the surgical method I am impelled to speak in the highest terms of the pronounced success of Dr. Truman W. Brophy, who has impressed the profession with his skill as an oral surgeon. But there are cases which do not yield to the surgeon's knife—there are times when the standing rules of nature rebel against interference, and it becomes necessary to aid rather than force nature to take certain grounds. There is not at present a more congenial procedure than the strictly prosthetic—provided that good judgment is used in the character of the appliance.

Surgey has its triumphs in these cases, but when the oral surgeons advocate these corrections by means of the knife alone, they are allowing enthusiasm to control discretion. Nor should the prosthesisist insist that the prosthetic should always be resorted to. In fact, a number of cases which I have seen indicate that where the oral surgeon leaves off the prosthesisist should begin, because in the greatest number of cases the surgical operation is but a beginning and not the end of the restorative agency.

In the first instance, we must remember the true function of the hard palate, the soft palate and the uvula, since disregard of their purpose must naturally lead us to failure, but it is most important that we understand the physiological function of the velum. Careful and scientific students of anatomy and physiology have told us that primarily the uvula acts as a valve between the oral and nasal cavities, and that it is not as essential as a curtain or vibrator, as has been thought. General surgeons of late not infrequently amputate



portions of the uvula, when it is too pendulous and drags on the tongue, making deglutition uncomfortable and speech indistinct. Hence the old idea that the uvula is never over-developed or too long does not prevail among general surgeons. It has been advocated in the past that the uvula is an important element in the production of sound because of its vibratory qualities. Its cardinal virtue lies, however, in its ability to close the faucal opening of the nose. The fact is its function is essentially that of a valve and in proportion as it is a perfect gate between the oral cavity and nasal cavity, it is efficient as an element of articulation. Consequently it is not primal to hang or be as a pendulum of flesh.

It is not the purpose of this paper to discuss the cause of cleft palate other than to say that I prefer to attribute it to three rather than two sources, namely, congenital, accidental and acquired. The simple cases of palate perforation as well as the complex cases of cleft I will demonstrate in the clinic to-morrow and will not take up the time now.

The method of taking an impression is of considerable importance, and this I will also demonstrate. It will afford me great pleasure to show the Case method for taking impressions. Dr. Case of Chicago has given this subject considerable thought and has contributed some very valuable suggestions. His appliances are also a pronounced advance over what the profession has been employing.

The Case method is a most decided step in the right direction; it certainly deserves commendation. The Case obturator has thick, round and heavy edges and is thin in the center, and is really opposite in construction to the Kingsley obturator, which is thicker in the center than at the edge. Dr. Case constructs two cases usually—the first being made of velum rubber, and when the patient becomes accustomed to the appliance he makes a new case of hard and velum rubber, the latter being used in the center as a diaphragm.

The disadvantage of the Kingsley method with its thin velum rubber edges is apparent. The soft rubber readily disintegrates, and, being porous, absorbs moisture and oral fluids, and this makes it uncleanly and in a measure uncongenial to the oval tissues.

The Case method could be improved, as I suggested while discussing this subject before the recent meeting of the Illinois Dental Society—if he would line the obturator with gold—or, better still, make the entire case of cast aluminum. I have had a case and

casted an appliance and attached the anchors as I suggest and will exhibit same at clinic. By the method I suggest the case is firmly held in position and the patient need not fear swallowing same, and this assurance is a comfort indeed.

The method I pursue is to swage a thin piece of gold to fit both sides of the cleft, and then take an impression with these in place, then remove and place on the plaster model and solder a thin piece of gold, connecting the two metallic margins. Carefully fit and adjust the metal to the posterior faucal walls and be sure to bend the distal margin so as not to impinge or cut the surrounding muscles. Then solder a wire of clasp metal, from the lateral sides of the obturator and extend them to gold crowns placed on both sides of the upper jaw, and by ratchet principle anchor the simple device into position.

No doubt some of you wish to know how I swage the two lateral pieces of gold so they will accurately hug the free margins of the fissure. This gave me considerable trouble until I by mere chance broke a model, severing it in a line with the fissure or cleft. After breaking the model as described, make a mold in sand of the free border of the cleft and make a die and counter die; then take 22-karat gold of about 30-gauge and swage to perfectly fit the margin of the left half of the model, and then swage a piece of gold in like fashion to cover the margin of the right half. Now place these lateral pieces of gold in their respective models and bring the models together into their original positions, as indicated by the fracture. You now have a piece of gold covering the left side of cleft and a piece of gold covering the right side of the cleft. The next step is to get a pattern in either tea-chest lead or sheet wax and obtain the outlines of the diaphragm or gold connecting the lateral pieces of gold. Cut gold to this pattern and solder it into position, remembering to let the diaphragm extend distally to the faucal walls and instead of cutting the gold off where it impinges, simply bend it upon itself, and the rounded border will be all the more congenial to the muscular tissues.

Do not have the gold border bent into an abrupt crescent, as this would form a shelf for food to lodge.

If these points are observed you can produce a most simple, hygienic and serviceable obturator. I regret that the term obturator does not really express the mechanical appliance used in the restora-

tion of cleft of palate. We use many terms and think they mean what we intend, but when we trace the word to its origin we find we are employing words and expecting them to convey certain ideas, when in truth they do not express the thought intended. This is the case with the word obturator. This word means "to permanently close up, by artificial means, an opening which serves as a canal." Now our appliance is not supposed to close up the opening permanently, since such a device would be an injury rather than a benefit. Our device closes the opening only during deglutition and while certain oral sounds are produced, while during the process of breathing and speaking words of a nasal sound the obturator does not close the opening. We need new terms—words which will express our ideas clearly. When we can dispatch thought and know that its meaning has perfect reception we shall have arrived at a most praiseworthy epoch in the career of our profession. There are but few who fully appreciate the importance of professional terminology.

Let me direct you to have the metal which serves as the diaphragm bent in such a manner that the free margins are in the oral and not in the nasal cavity. If you bend them upward the nasal mucus and fluid substances would lodge and necessitate frequent removal of the case.

In the event of mere perforation of the palate and the opening is not larger than a nickel, excellent results can be gotten by swaging a piece of 22-karat, 24-gauge gold, soldering in the center a thick gold bolt; drill hole in the gold base and attach a gold post on its nasal surface and force a rubber wheel, such as we use in cleaning teeth, through the wound or aperture. The rubber will distend and hold the gold base in position.

There are numerous other methods, but many of them are not practical or hygienic.

The methods which require a spring have the disadvantage of harboring foods and should not be employed.

Some time since an Eastern dentist advocated that the obturator be made of metal and that a metallic vula be made and attached to the base by means of a hinge, but even this device becomes freighted with oral fluids and foods which shortly become disorganized by fermentation and induce disagreeable odors.

Others have advocated the use of a spiral spring, attaching same to the distal border of the obturator, and at its free end soldering a piece of gold—paddle shaped—to complement the faucal orifice, but

this method, though it seems scientific and correct, shares in the same objections already cited. The spring and the hinge as well should not be used. There is no need of the hinge or spring; they are useless and do not accomplish the results desired. The hinge, with its appending piece of gold representing the velum, hangs in the mouth and obstructs the tongue and does not move readily to close the nasal cavity. The gold is too heavy and when constructed thin and light it fails to be of sufficient rigidity to withstand the action of the food while being forced into the esophagus.

In fact, the artificial uvula need not hang—as a curtain. Its function, as I have emphasized, must be to act as a door between the nose and mouth. To further prove that the velum is not so all-important as a sound producer or vibrator, I am pleased to say that in a recent conversation with Dr. D. A. K. Steele, oral surgeon of the dental department of the University of Illinois, he stated that he frequently snips away portions of the vula when it seems to interfere with the action of the tongue. In fact, Dr. Steele added that nose and throat specialists quite often remove considerable of the velum without injuring the power or quality of the voice.

Now with these facts as a basis it would seem good practice to disregard the construction of the curtain or velum.

There is a possibility that an obturator constructed with a flexible velum made of clasp metal or so attached as to admit of ready anti-posterior movements would be a serviceable appliance. I have one under way, but am at this time unable to give you the character of its action, since I am in search of a metal or combination metal which will yield as velum rubber, and this would avoid the use of rubber and dispense with the hinge or spring.

What I desire to impress you with is the thought that the uvula is not the all-important feature in sound modification or production, but it is essential as a door. This statement may seem out of accord with what we have been taught. I know I am standing on dangerous ground, but we often learn when we go away from old and beaten paths, and recent surgical procedures indicate the velum is of secondary importance as a vibrator and sound producer.

The correction of cleft palate by the surgical method is oft unsuccessful in that the operation does not result in producing a perfect valve. It does yield a flap or pendulous velum, but, as before stated, this is of less importance than to be a true door between the nose and mouth.

It is impossible to surgically produce the fleshy portion so it will articulate or come in apposition with the distal portion of the faucal walls. Nature in healing a cleft or V-shaped opening proceeds to deposit granulations at the narrowest part of the wound and continues to heal until the wound has healed straight across at its most distal edge, margin or border, hence we cannot grow or develop a true uvula, nor is it practicable or possible to engraft a velum at the distal margin of the soft palate.

This goes to emphasize the remark that when the surgeon's work has ended the prothesist's labors should begin, the one procedure being to the other as the string to the bow—mutually essential.

Again, since it is not imperative that the artifice be pendulous or be suspended, it is all the more certain that the final steps should be left to the prothesist.

In the past appliances were of a most intricate character and only the ingenious were able to afford the patients service, but late years have established new ideas founded on scientific observation.

We are disposed to think the restoration of cleft or perforation of the palate less difficult than was supposed. The question now remains: How to retain the appliance rather than methods of restoration?

The profession has been especially non-progressive along this line because the general practitioner has believed the cases too difficult and intricate to handle and hence do not treat the case. A few—a very few—have given the matter serious thought and made progress, while the profession as a whole avoided accepting the unfortunate patients. And when the practitioner did take interest in the case he recommended that he consult with some specialist. The result is the profession has neglected a most necessary element in true advancement—namely, study the case yourself and never send a patron from your office unless you positively feel incapacitated. I am safe when I say only a very few give any consideration to restoration of disturbed palates. Recently while attending a large gathering of dentists I asked how many possessed flasks intended for vulcanizing artificial vela, and one gentleman answered, "I bought one years ago, but never used it." How can we expect great advancement in this particular unless the practitioners generally apply themselves and by this universal concern gather notes, observations and freely compare. Ours is a profession founded on art and science, and the

former is an outgrowth of comparative methods. To advise, correct and amend that is what we are gathered in convention for and all must contribute if we hope to be a broad and liberal calling, not narrowed down to a few fads or special departures, but awake to the great needs of the suffering human race.

Ask yourself the query, "Are the afflicted and unfortunate receiving their quota of professional attention? What is being done for the thousands of persons who have impaired or disturbed palate and uvula? There is scarcely a village in our land that does not count in its population individuals of this character. Our noble profession is not granting these afflicted souls the consideration that our humanitarian spirit prompts. Let us resolve to show our compassion and professional sympathy for these unfortunate neighbors and build for ourselves a character meriting the good will and admiration of the general and not the special public.

NOTE:—Cuts in this article were taken from paper by Dr. E. A. Bogue in 99 *Cosmos*.



## DENTAL ETHICS.

BY DR. EMMA T. READ, SAN DIEGO, CAL.

In considering the subject of Dental Ethics, it is perhaps of not so much importance to bring out a number of new points as to call attention to the laws we have, and to bring about a better enforcement of them. If the unwritten laws of Dental Ethics were engraven in our hearts, we should have less trouble in deciphering the written.

Burke says, "Good manners are of more importance than the law, for upon them the law depends. Manners are the revealers of secrets, and the betrayers of any disproportionments in mind and character." To hold respect, to be honored and to be successful in attaining the highest degree of skill in our profession of which we are individually capable, and to have some cash on hand is our ambition; but in kindly words, politeness, cordiality, sensible, tactful, sincere praise and appreciation for the efforts and results of others, lies much of our real enjoyment. Whatever may be the code of ethics, no profession can rise higher than the quality and character of those who represent it.

Principle is greater than law; and principle must predominate or our profession will be dishonored.

There are wrongs and injustices, and we as an organization adopt certain rules and laws not only to protect the rights and interests of each other, but to guard against the array of advertising men and women, who are willing to bring dishonor on the dental profession by using it as a cover to obtain money.

The *Medical Press* states: "The official records of the city of Berlin show that 60 per cent of the quacks practicing there have been ordinary day laborers before they blossomed out as professional benefactors of the afflicted, that only 40 per cent have had an elementary common school education."

We do not have to go to Berlin to find a similar condition, but in our own state and cities and towns.

Dr. Thaddeus P. Hyatt, in an article on "Has Dental Legislation Cured Quackery?" says: "There are but two logical methods to be followed that will produce a radical and permanent cure, both of which should be worked for and their adoption secured. The first is to have all reputable dental colleges embody in their rules and regulations which govern the awarding of diplomas, a clause

which would require the students to take a pledge to observe and uphold the dental code of ethics. Any infraction would cause a loss of the diploma and thus debar from practice. This is no infringement of our constitutional rights and would be of great benefit to both the profession and the public.

Secondly, a greater knowledge upon dental subjects should be disseminated to the public. The subject of dental quackery should be treated fairly but fearlessly and without malice. Just as quickly as the truth of the facts given are appreciated, and a better understanding gained of the importance of the teeth, their care and preservation, just so soon will we find the public seeking the service of professional dentists."

Dental education for the public, given by the state and district societies, will do more to stop dental quackery than all legislation.

A step in the right direction was taken by our Southern California Dental Society, in the preparation of a pamphlet containing matter with which all parents should be familiar—on the care of children's teeth. This pamphlet to be distributed to all children in the public schools of southern California, between the ages of 6 and 15 years. Distribution to be made by Superintendent of Schools, in the hope that by the better education of parents on this subject the children will be benefited.

The pamphlet prepared by this association on "The Teeth: Their Value, Care and Preservation," should be more widely circulated by every member of the association. This method in itself, persistently carried out, would bring about a great fund of important knowledge, in almost every family in California.

To-day unprofessional men are doing more to educate the public than we are. We want honorable men and women in the ranks, and in order to have this, the public must be taught that only such are fitted to practice dentistry.

We as an association cannot place within men and women that principle which will make them ethical, but we have the power to cause every practitioner, who is a member of this association, to obey its laws.

(By-laws of Cal. State Dental Association, Article Eleven (XI), Section 2, and Article 21, Section 6.)

We believe that many are violating the law through ignorance—unpardonable, perhaps, but ignorance, nevertheless—through not



having had ethical teaching. The importance of establishing chairs of ethics in our colleges cannot be overrated, and the benefit derived in higher professional life cannot be estimated.

Dental ethics and dental education go hand in hand. From the *Gazette* we quote:

"Are we improving our material from which we manufacture dentists? From what walks of life do we now draw our students? Are their surroundings such as would induce them to accept our professional standard and practice among ethical surroundings, or are they largely attracted by the commercial aspect which the profession is assuming? Can we expect good products from improper material, and have we asked ourselves the question, where will it all end?"

A fuller preliminary education, a higher entrance requirement must result in better professional men and women, but all educated men and all educated women are not adapted to the practice of dentistry; and Dr. Kirk struck the keynote when he said, "Our entrance standard will never be a truly higher standard until it is made selective in character, with respect to fitness, to enter upon the dental course."

Next year all colleges represented by the National Association of Dental Faculties will institute a four-year graded course.

It is said (Dr. Barrett) that there are no known dental schools either in North or South America, outside the United States, whose courses can be accepted as equivalent for even one year of the recognized American schools, save the Royal College of Dental Surgeons of Ontario, Canada. Every year we are furnishing better equipment for the dental graduate, but are we requiring a corresponding loyalty to our code of ethics? Our beloved Dr. Menges could not have left us a more important question to answer than that in his last article, in the *Digest* of June, 1900: "What Will the Policy Be?"

The following declaration must be signed by all candidates for license to practice dentistry issued by the Royal College of Surgeons in Ireland:

"I, A. B., hereby solemnly and sincerely declare that I am twenty-one years of age and upward, and that if I shall be granted the license in Dental Surgery of the Royal College of Surgeons in Ireland, so long as I hold the same I will not seek to attract busi-

ness by advertising, or by any other practice considered by the college to be unbecoming; and I agree that such license shall be canceled on its being proven to the satisfaction of the president and council that I have done so."

In one part of the present law of the state of New York occurs the following:

"If any practitioner of dentistry be charged under oath before the board with unprofessional or immoral conduct, or with gross ignorance or inefficiency in his profession, they shall notify him to appear before them at an appointed time and place, with counsel if he so desires, to answer said charges, furnishing to him a copy thereof. Upon the report of the board that the accused has been guilty of unprofessional or immoral conduct, or that he is grossly ignorant or inefficient in his profession, the regents may suspend the person charged from the practice of dentistry, for a limited season, or may revoke his license."

If the board of judges can debar a lawyer for dishonest and unprofessional conduct, the State Examining Board should have the power to cancel a dentist's license for the same offense, instead of which Section 21 of State Dental Law reads, "Said board, or any member or officer thereof, may prefer a complaint for violation of the law regulating the practice of dentistry, before any court of competent jurisdiction, and may, by its officers, counsel and agents, aid in presenting the law or facts before said court in any proceeding taken thereon; and it shall be the duty of the district attorney of each county of this state to prosecute all violations of the aforesaid provision of this act in their respective counties in which such violations occur." And in the last Report of Dental Examiners, page 8, we have the following: "It seems to be popularly supposed that the Board of Dental Examiners shall prosecute all persons violating the law. This is not the case; but it is the duty of every dentist to see that the law is enforced, and it is the duty of every prosecuting attorney of each county to prosecute every person violating the law, on receipt of information of such violation, and the necessary evidence to establish the fact."

The Board of Dental Examiners is not compelled to prefer charges for violation of law, but it is within its province, and the same obligation rests upon the board as upon us.

Why do not the ethical members of the profession see that the law is enforced?

Because it means a personal fight with the unprincipled and because the public is not yet educated to understand that such action would be to "suppress evil and not oppress the individual, that the enforcement of the law concerns public welfare." Is it a fact that men conducting illegal and unprofessional places of notably bad character, under cover of dentistry, have asked for time, and to this day continue their disreputable places without license, and without interference from dental examiners or from ethical practitioners who are cognizant of such violation of law?

We look to our Board of Examiners to help us all that is within its power in the enforcement of law, and Section 21, of Dental Law, provides funds for such action, but not a sufficient sum.

The law of yesterday will not answer for all time. Liberties have been granted which are not considered wise, and to adjust the law to meet present requirements, and not conflict with liberties granted, is a question which needs our consideration.

A law making it obligatory on the part of the State Board of Dental Examiners to prefer complaint against illegal practitioners, to colleges of those holding diplomas, thus causing diploma to be revoked; to district attorney of those holding license, thus causing license to be canceled, and to investigate and bring charges against those practicing without license, or, by employing an attorney for the state, for this purpose, would very soon correct these evils.

Let this board be appointed by our State Association, instead of by the Governor, in the hope of doing away with political appointments.

By this action fraudulent degree-selling institutions would be successfully met and handled. And let this board become a member of the National Board of Dental Examiners.

Attention is called to the fact that many practitioners who are in all other respects ethical are ignoring that part of the law which requires licenses to be recorded with the county clerk in the county of residence, within six months of date of issue. Such negligence subjecting to forfeiture of license.

Observance of Sections 4 and 5 of our Code of Ethics would bring about a purifying and cleansing of many dental offices, as well as to correct undesirable personal habits of practitioners.

By request, we read Sections 6 and 7 of our Code:

"Sec. 6. It is unprofessional to resort to public advertisements,

cards, handbills, posters or signs, calling attention to peculiar styles of work, lowness of prices, special modes of operating, or to claim superiority over neighboring practitioners, to publish reports of cases or certificates in public prints, or to go from house to house to solicit or perform operations, to circulate or recommend nostrums, or to perform any other similar acts."

"Sec. 7. When consulted by the patient of another practitioner, the dentist should guard against inquiries or hints disparaging to the family dentist, or calculated to weaken the patient's confidence in him, and if the interests of the patient will not be endangered thereby, the case should be temporarily treated, and referred back to the family dentist."

So long as we take no more definite action in regard to ethical standing, when we see a means of correcting matters, so long must we fail to be on equal ground with our mother profession. No great victory is won without battle, and it remains for us to make the dental profession what we will, remembering that "It is not failure, but low aim, that is criminal."—*Pacific Dental Journal*.



## POINTS IN DIAGNOSIS IN CASES PRESENTING NEURALGIC SYMPTOMS.

By Greene Vardiman Black.

I was called to a patient in the clinic room by one of the demonstrators who said that the case had been examined a number of times by several practitioners before coming to the clinic because of persistent pain in the right side of the lower jaw, in the ear, temples, and in the muscles of the right side of the neck. The pulp had been removed from the lower second molar of that side and a filling made some two weeks before, and this condition of pain had developed since, but examinations of this tooth did not indicate anything wrong in the apical space.

The patient was a lady about thirty years old, rather thin in flesh, with an expression of great weariness. In answer to inquiries she said she was in her usual health except that she was worn out with persistent pain, which had been almost continuous for ten days. Upon cursory examination I found the teeth of that side of the lower jaw apparently in good condition. All of them, however, were abnormally sensitive to both pressure and percussion, the one that had recently been filled not particularly more so than the others. A casual examination revealed no cavities. Now the inquiry as to the character, quality and exacerbations of the pain was more closely made, by which it was learned that it was more severe at night, or upon lying down. This was so marked that the patient had slept in a chair. Often during the day there was freedom from pain for several hours at a time, but a breath of cold air or anything warm or cold taken into the mouth would excite a paroxysm that frequently would continue for several hours. In these paroxysms the pain was very sharp and lancinating and much inclined to change from one place to another, being sometimes in some particular tooth, again along the jaw, in the ear, or along the side of the neck—more rarely in the temples. The patient attributed the pain to the tooth that had been recently filled—claimed that it hurt the most and wished to have it removed.

The general condition of the patient would give color to the idea that this was a neuralgia arising from lack of nutrition or disturbance of the nervous system, but these conditions do not often develop severe neuralgia suddenly. They generally require weeks or

months for their development, beginning with light paroxysms which gradually increase in severity and duration. This is therefore excluded. This case might be classed as a neuralgia arising from some central source of irritation in the brain or along the line of the nerve trunk or even the periphery of a nerve; if this were in some internal part which had the sense of pain but not the sense of touch. If the point of irritation were in part having the sense of touch it would be correctly located by the patient, but without the sense of touch it is liable to be referred to some neighboring part or anywhere along the line of the nerve trunk or its connections. The history of disease of the brain or of the nerve trunks with the development of neuralgia also show them to develop rather slowly and in this case should be excluded.

With this process of exclusion we are left with peripheral irritation as the probable cause and that irritation will be found in a tissue that has not the sense of touch and localization. The dental pulp is such a tissue. Further, in such cases the cavity exposing the pulp, if any, is very generally in some hidden away locality entirely unknown to the patient and liable to escape discovery except by the most rigid examination.

Having obtained the history and having rapidly made a mental review of it similar to that given above, I took the exploring instrument and began with the lower central incisor of the affected side and slid the point over all parts of each of its surfaces one after another, being careful to pass the point under the gum to the attachment of the peridental membrane on each, especially on the labial and proximal surfaces. When the examination of the central was completed the lateral was similarly examined, then the cuspid, first and second bicuspid and first molar. In passing the point over the distal surface of the first molar it dropped into a cavity. An exploration of this developed an exposure of the pulp and a condition of extreme sensitiveness.

Removal of this pulp effected a prompt and complete cure of the case.

I relate this case to show the course to be pursued and the general line of symptomatology that should be depended upon in arriving at a diagnosis in this class of cases. Then the examination should be absolutely systematic and thorough. With this done error will very generally be eliminated with ease.

Dentists have a large amount of trouble in such cases because they have learned imperfectly the symptomatology that should direct the exploration, and also because of lack of systematic thoroughness in the exploratory examination. It should be remembered that persistent neuralgias that arise from imperfect nutrition, abnormal waste or disease of the nerve trunks are seldom developed suddenly, while frequently these false neuralgias which in the symptoms they present when first seen so closely represent the graver forms, not infrequently develop within a few days. This in itself should exclude serious disease of the nerve trunk or nutritional error as a cause and direct the exploration to the discovery of some local irritation. If it is also remembered that these cases that show pain reflected to various localities in the neighborhood or occasionally even to somewhat distant parts, if from the teeth almost always arise from exposed pulp in some hidden away place that has not been discovered by the patient, it will assist in directing the exploration.

A physician once brought a patient to consult me because of persistent neuralgia of the stomach. Inquiry developed the fact that in the beginning of the trouble there had been much pain about the jaws and the ear of the left side. The patient was nearly seventy years old, and many teeth were missing. Pain was often very severe shortly after eating and things hot or cold could not be taken without increasing the pain. A patient exploration finally disclosed a large absorption of the root of a lower third molar near the gingival line that had extended into the pulp chamber. This was found while carefully exploring the attachments of the periodontal membrane to the neck of the tooth. Removal of this tooth relieved the difficulty.

It is well to remember that even in cases of neuralgia that have developed slowly the most careful examination of the teeth should be made, particularly if there has at any time been pain about the mouth. It is, however, a great error to jump to the conclusion that all neuralgias starting about the face and jaws are caused by disease of the teeth. In a number of cases that have come under my observation all of the teeth have been extracted one by one in the endeavor to cure a neuralgia arising from disease of the trunk of one of the divisions of the fifth pair of nerves and was therefore fruitless. Teeth should not be removed when definite cause for so doing cannot be found.—*Northwestern Dental Journal*.

## THE IMPORTANCE OF ATTENTION TO THE MOUTH AND TEETH BEFORE AND AFTER OPERATIONS UPON THE PELVIC VISCERA.

H. Macnaughton-Jones (British Gyn. Jour., May, 1903). Anything that is likely to complicate recovery from a pelvic or abdominal operation is worthy of attention. One of the sources of accidents or complications after operations may be found in the condition of the buccal cavity, which, even in health, harbors a great variety of micro organisms. Among these highly infective germs are often present, and Miller has found that microbes frequently number a hundred and forty million in an unclean mouth. The swallowing of such pathogenic organisms may cause various gastric troubles, and such a sequel gains in importance when we consider that the general health of the patient after an operation is more or less affected. Moreover, the lymphatics of the salivary glands, and those of the mouth communicating with the superficial and deep cervical glands, may carry infective organisms to these latter. Should there, at the same time, be any slight abrasion of the buccal mucous membrane, the infection may thus directly reach the circulation. We know of the fortunately not too frequent cases of parotitis following various operations on the pelvic viscera, but mainly subsequent to oophorectomies. The author is not inclined to accept the theories of either the neural or toxic origin of the parotitis in these cases, and rather adheres to the view that the affection is coincidental and is caused by carious teeth or any other contamination arising out of unhealthy conditions of the mouth. But even then the lowered vitality of the patient should be carefully guarded against any factor that could militate against recovery or prolong convalescence. Therefore, the mouth and teeth should be included in the preparation of the patient for the operation. The author uses as disinfectants for the mouth permanganate of potash, formalin, peroxid of hydrogen, boracic acid and sulphurous acid. A combination of boric acid, formalin and glycothymolin was found to be most agreeable. In the gastric complications in which fetor of the mouth and breath is present, benzonaphthol, given in the form of cachets, and a periodical small dose of calomel should be administered.



## DIFFERENTIATION AND EARLY DIAGNOSIS OF PATHOLOGICAL CONDITIONS OF THE MOUTH.

By Thomas L. Gilmer, M. D., D. D. S., Professor of Oral Surgery, Northwestern University Dental School, Chicago.

As dental students are being better trained in diagnosis and differentiation of the various diseases of the mouth, and as dentistry is becoming more and more a branch of the healing art, rather than a mere mechanical pursuit, it is inexcusable for the practitioner to overlook conditions in his field of operations which should at once be recognized, diagnosed and treated.

The general practitioner of medicine does not have the opportunity for examination of the mouth until his patient has had sufficient inconvenience from disease of that cavity to call the attention of his physician to the condition, when too often the time has passed when a minor operation will suffice for a cure. On the other hand, the attending dentist, from frequent examinations of the mouth, has ample opportunity to carefully scrutinize all of its parts, and if he has sufficient information and is careful and painstaking, may detect disease in its incipency, and by applying the remedy may save his patient incalculable inconvenience, and at times his life.

Benign growths often become malignant if neglected, which, had they been early recognized, might, by a very trivial operation, have been permanently obliterated. It is a well-known fact that a simple papilloma (common wart) or hypertrophy of the gums may degenerate into a carcinoma. Leukoplakia bucalis may have, and generally does have, a like tendency, likewise other innocent conditions may have a similarly serious sequel.

Good authorities place 86 per cent of all growths in the mouth in the malignant category, a much higher percentage than would be placed upon pathological growths in other parts of the body. Owing to this high percentage it is safe to suppose that all new growths in the oral cavity are malignant, or may become so, unless the contrary be definitely determined.

With these facts before him, how can a dentist better serve his patients than by having the ability to differentiate and diagnose, at the earliest possible period, diseased conditions which may affect their welfare so seriously if unrecognized?

Errors in diagnosis of certain diseases of the mouth are at times most serious. Two such instances have come under my observa-

tion in the past year. In the first case the diagnosis was made by the dentist and family physician as empyema of the maxillary sinus. The treatment decided upon and carried out was curettement of the antrum, the worst possible thing that could have been done, as was proven by subsequent events. In a short time after the operation the condition became alarmingly worse, and the patient was sent to me for suggestions as to a better means of operating for empyema of this cavity. When I saw the case it showed unmistakable evidence of a malignant growth of the carcinomatous variety, and I reported my belief to the attending physician, who ridiculed the idea. A microscopical examination, however, proved the correctness of my diagnosis. This being established, one-half of the superior maxillary bone was removed. In a short time after the operation the growth reappeared and the patient died.

In the second case a dentist had made a diagnosis of necrosis of the outer plate of the superior maxillary bone. The family physician thought it empyema of the maxillary sinus. The treatment in this case was curettement, followed by antiseptic irrigation. The patient's condition grew worse, when she was referred to me for examination and treatment. By the appearance of the diseased area, by the general history and by exclusion I was able to make out a diagnosis of carcinoma. In this instance microscopic findings verified my diagnosis, when removal of the half of the upper jaw was determined upon. When the jaw was removed it was found that all of the buccal and nasal plates of the bone had been absorbed by the growth, also the floor of the orbit had been likewise destroyed.

The operation is of too recent date to give a prognosis as to the probable result. In most of such cases, when the disease has progressed so far as in this, we can only hope to prolong the life of the patient for a brief period, and it is a problem if the end justifies the means; though the friends of such patients generally prefer to make this last attempt to save life.

These cases are cited not to exploit any superior knowledge I may possess as a diagnostician, as I claim nothing in this direction more than any intelligent dentist or physician may possess if he gives the subject that careful consideration which is his privilege and duty. They are cited to show the importance of a critical examination of all such cases, also the desirability of accurate information of diseases of the mouth, in order that we may differentiate with

intelligence. By such knowledge we may make a sufficiently early diagnosis that operative procedures, coupled with other treatment, may be made more lasting and beneficial.

I would urge my readers, especially the younger ones, to take up these subjects for study, as no one knows too much of them. Get the latest and best works on pathology, and some good work on tumors, such as J. Bland Sutton's work, "Tumors Innocent and Malignant," if you do not possess them already, and learn all there is to be known from them on the subject.

It is well for the dentist to impress upon the minds of his patients the importance of having the mouth examined at least twice a year, and oftener in some cases. In examining the mouth the scruputization should embrace not only every surface of the teeth, but as well all parts of the mouth, including the tongue and salivary ducts, the pharynx and the jaws; indeed our entire field. The primary and secondary manifestations of syphilis in the mouth should be well understood, not only for the benefit the patient will derive from our possession of such knowledge, but for our own safety as well.—*Northwestern Dental Journal*.



## A DISCOVERY BY A YOUNG GRADUATE.

Case presented of patient (first one), after days of waiting, age 43, gentler sex, an old friend of family. Partial plate above and anterior teeth below in fairly good condition, except for an accumulation of tartar and left central quite extended from socket, which was cause of visit. After removal of accumulations and polishing the rubber cloth was adjusted and a cavity on mesio approximal was found, which was opened up with round burr and decay removed. The burr seemed to excite quite a bit of pain until the pulp chamber was enlarged, and then as there were no visible signs of the canal a Gates Glidden drill was used in following the canal, or rather a dark line indicating the presence of a canal.

After a second exploring the drill dropped into space and a new Donaldson was inserted in the cavity and carefully manipulated. A small amount of mucous sort of foul-smelling something was removed from the canal, which was nearly an inch deep. Dioxogen was forced into cavity, causing pain and great fomentation. After using several minims of Dioxogen hot air and cotton were used until thoroughly dry and forma percha was used on point and packed in with burnisher.

This operation caused such severe pain that temporary stopping was placed in cavity and dam removed to leave the entire space bounded on either side by distal wall of central incisor and mesial wall of lateral incisor from apex of either to rubber dam had been very nicely filled. Pain increasing, filling was removed and small amount of pustolene inserted in cavity proper. Patient dismissed for twenty-four hours and evidently took twenty-four of grace.

Moral: Be sure you're right, then pump in filling.

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DECIDUOUS TEETH EXTRACTED BY AN INJURY.

Earp (Pediatrics, July, 1903) attended an infant, aged 16 months, that had loosened the four lower incisor teeth by an injury while rocking on a hobby horse. The teeth were forced from the alveoli and the labial surface of the teeth were in contact with the lower lip. The gum tissue on either side was lacerated to the alveolar margin of the maxillary bone. There was a slight attachment of tissue on the anterior surface which in this position would in reality be the under surface, so that it comprised a plate with the

apices of the roots completely detached and extending over the inner margin. An elevation on each side of the wound indicated that the canines were upon the verge of eruption. There were no teeth to which a mechanical appliance could be attached. Hemorrhage was moderate. The injured parts and mouth were treated with a boric acid solution, the teeth replaced, and, after firm pressure for five minutes, were kept in place by a pledget of cotton saturated with the same solution, but the customary head bandage was ineffectual. Bromid of soda and chloral were given to produce quietude. The diet was liquid.

Two days later the child fell and produced the same conditions of affairs as existed at first. The former mode of treatment was repeated, and after a few weeks the teeth were firm and in a healthy condition.

The preservation of the teeth in this instance prevented depression which, during the succeeding four or six years, would have changed the expression of the features and avoided deformity and malposition of the permanent teeth.

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### REMOVING PULPS WITH COCAINE.

Recently I had occasion to remove live pulps from the upper left first bicuspid and upper right first molar for a school teacher, who was preparing to leave for her vacation on the following day. Thinking to save time, I placed a small pledget of cotton wet with a saturated solution of cocaine, in the cavity of the molar, directly upon the exposed pulp. To prevent the cocaine getting into the mouth, I filled the cavity with gutta-percha, making but slight pressure upon the pulp. Then I applied my rubber dam to the bicuspid on the other side of the mouth, removed the pulp with pressure anaesthesia, and filled the root, and tooth, consuming an hour in the operation.

When I came to work on the molar, I found that the cocaine with slight pressure had done its work, and the molar pulp came out without any pain and with less trouble than I had expected.—W. A. Johnston, Peoria, Ill. *Review.*

## THE TREATMENT OF CHILDREN.

By Frederick B. Noyes, B. A., D. D. S.

One of the things which make dentistry an attractive calling is the fact that the qualities which together go to make up what is called *personality* have more to do with success than in any other profession, not even excepting the practice of general medicine. There is a universal dread of the dentist and dental operations. Almost every one coming into the office for the first time in a series of appointments will say, "I did not want to come to see you a bit, but I know that my teeth need attention." After a remonstrance he may add, "Oh, it is only professionally that I do not like to see you." This shows the mental position of the patient, and the first necessity of a successful practitioner is to dispel that fear. There is more than Christian Science in the statement that fear is the greatest source of pain in the world. I have seen many a patient suffer more in five minutes before anything was done than in the entire execution of the operation to be performed.

The first thing to be done is to control the mental condition of the patient. This requires mental power, alertness, energy and sympathy. By sympathy I mean a quick apprehension and appreciation of the condition, especially the mental condition of the patient, not necessarily an expression of it. The most fatal thing is a feeling of antagonism. It may be true that it is all nonsense, but one must remember that the mental suffering from a comparatively slight injury to one person may be as great as that from a much more severe hurt to another individual. I have seen a three-year-old child faint away because he thought it would hurt to wash the blood from a scratch on a finger, the scratch having been inflicted half an hour before. It is useless in such a condition to say, "nonsense, it will not hurt." It is necessary to fully divert the thought and attention from what is to be done, which is the generator of fear, and fear overpowers judgment.

Read, if you will, Maupassant's story, "The Coward," or "A Ghost Story," to get a picture of fear. As an example: When one is alone in a house it may be useless to argue that "that was only the movement of a shutter by the wind." Every sound is heard, the ear aches with the effort to determine just what each sound may be. The book, though interesting, will not keep the mind from catching

any motion. But let some one come in, and though the same sounds are present, they are entirely unrecognized in consciousness.

Most patients in the dental chair are more sensitive to the slightest sound, or touch producing sound, than the most timid woman alone in a house. A quick mind, a wide knowledge, and a quick sympathy for their mental condition, can so occupy their minds as to divert the attention and center it upon other things, until those sensations fall below consciousness. To do this requires energy, vitality, and it must be remembered that the more severe the sensations the more firmly must the attention be held. The operator must, then, not only do the work, but he must literally carry the mental condition of the patient. While he must study the reason for every motion of his fingers and instrument, he must observe the patient as closely.

In no portion of a practice are these conditions of more value and importance than in the treatment of children. And, first of all, remember that children are as different as grown people, if not more so. But they have not usually learned so well to cover up their peculiarities and hide their mental conditions. For that reason they are more interesting and often more easily handled, and they are not concerned with what you will charge.

Some will stand petting and talking sweet to, but most will resent it from a stranger. They have been thinking all the way to the office what the dentist would be like and how he would treat them, and your success depends largely on your ability to guess those thoughts from the face and actions, and by some deliberate study in your own leisure hours. Many a boy, especially a small one, will remember longer that "He called me a baby," than that it hurt. And many another, when asked at home if it hurt, will say, "Yes, but he showed me how the buzzer works and let me make a hole with it; can I go down next week?" Showing that the thought of the pain is displaced by something else.

Children almost always dislike to break down before a stranger, especially if they like the person and want him to think well of them. For that reason never push the operation to that point if it is possible to avoid it. If you see that the tears are gathering, stop for a minute. Have to get another instrument or adjust the chair, and be sure to call the child's attention to it, if possible, in some amusing way, then go back and finish. If the break does come, it is usually

better to go ahead a little more heroically and finish the matter so as to avoid a second, and then tell the child how much was done and encourage him. He deserves it. But this sort of thing might be carried on indefinitely, and it would not prove efficient with the next child that came into the office. At the very bottom must be a real liking for the little people. I have heard many men say that they did not like to work for children; that it did not pay. There never was a greater mistake. No one will advertise your good (or your bad) qualities like a child. Treat children well and they will be yours forever, but deceive them once or be unkind to them, and while they may come to you as long as they are obliged by the parents; as soon as they can choose for themselves someone else will do their work and their childrens'.

A child should never suffer with toothache or with dental operations. When he does it is because of some one's fault or carelessness. If their mouths were examined soon enough and often enough the cavities could be filled without any pain, but that time is much earlier than most parents realize. Every child should have his mouth examined by the time he is four years old, and many will need fillings by the time they are two. It is the duty of the dentist to instruct the parents in the care of the childrens' teeth, but when the child has once been brought to your office it then becomes your duty to see that the visits are repeated as often as necessary. Time flies and the best of parents forget that the time has slipped around and they have not sent the children back to the dentist. You should keep so systematic a record that you can easily send appointments to the little people once in six months. In doing this address to the child; all children like to get letters.

In the work on temporary teeth for children the first consideration is to get them free of pain, and the second, to *keep* them free from it, but the kinds of operations to be made for children would be a topic to be considered by itself.—*Northwestern Dental Journal*.



# ITEMS

Cleaning Impression Trays.—To remove all wax from impression trays boil in water into which has been placed a small quantity of common washing soda.—*J. R. Watt, Chicago, Review.*

Facilitating the Adherence of Cement.—Dry the surface to be covered with cement thoroughly in the usual way. Saturate a pellet of cotton with phosphoric acid and apply a thin coat, after which a small quantity of cement mixed very thin should be placed all over the surface, using the same cotton. Cement can now be mixed and applied in the usual way.—*R. L. Graber, Peoria, Ill., Review.*

Partial Lower Plates.—Partial lower plates should extend well up on the lingual surfaces of the natural teeth, otherwise they would have to be very narrow, in most cases, to avoid contact with the muscle. A plate resting against the remaining teeth can be worn with much more comfort, being held in place better. More trouble arises from not extending the plates high than otherwise. This has been my experience at least.—*L. P. Haskell, Chicago, Review.*

Amalgam and Cement in Combination as a Filling Material.—For posterior teeth with very large cavities, where good retention cannot be obtained, use equal parts of amalgam and cement, each mixed in the usual way, separately. The amalgam and cement can now be mixed with a glass rod and rolled into pellets. Burnish the pellets into the cavity, leaving room for a thin veneer of amalgam on the surface, which will adhere to the mixture of amalgam and cement. This makes a durable filling.—*F. C. Aubrey, Chicago, Review.*

## THE PLASTER BENCH.

A piece of plate glass about a foot wide and two feet long, set in the plaster bench near the waste drawer, presents a smooth surface on which to set models, and which is easily cleaned.—*A. W. Thornton, Brief.*

## VULCANITE INLAYS.

For occlusal surfaces inlays of gray or white vulcanizable rubber are readily made at but little cost, the appearance of the finished

work being very excellent. The cavity is prepared without undercuts, swabbed with vaselin, and an impression taken. Pack the rubber in a plaster mould and vulcanize. Finish up well, polish, and cement to place.—*Dental Digest*.

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#### TO REPLACE A BROKEN PLASTER TOOTH ON A MODEL.

Drill a hole in the cast and also in the broken tooth; fill both holes with very thin cement and place in position. This will form a pin of cement securing the tooth in its original position.—J. R. Herzog, *Dental Summary*.

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#### GUTTA-PERCHA CONES IN ROOT-CANAL FILLING.

Moisten the canals with oil of eucalyptus and press to place the gutta-percha cone. If also applied after the cone has been placed in the canal, by employing a blast of warm air the gutta-percha can be easily packed into the canal. Use only enough to moisten the canal.—C. R. Taylor, *Brief*.

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#### CARBONIZED COTTON.

My first experience of the great value of carbonized cotton in the treatment of teeth with gangrenous pulps was quite sufficient to establish its reputation, and I have never had any complaint to raise against it. It has stood by me in my hardest struggles against abscessed teeth and has come to be of the greatest value to me and to my patients.—A. Jessel, *Brief*.

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#### PACKING RUBBER FOR VULCANIZING.

When packing rubber in the flask for vulcanizing, wedge-shaped pieces, pink, should be first packed between the teeth. The pins of the teeth should now be covered with narrow strips of red rubber, after which strips of pink, cut wide enough to cover all parts that are to represent the external gum, should be placed in position, being careful to overlap the ends to prevent the red rubber from being forced through where the ends are joined. The balance of the red rubber may now be placed where it is needed, and if there are no air holes in the plaster investment, the denture when finished will be free from unsightly red spots on the artificial gum.—C. R. Taylor, Streator, Ill. *Review*.

## TO ELECTRO-GILD ORTHODONTIA APPLIANCES, ETC.

Make a solution by dissolving ammonium carbonate and potassium cyanide, each one ounce in one pint of rain water. Attach the appliance to the zinc pole and a piece of pure gold to the carbon pole of any form of cell battery. Place the solution in a porcelain pan over a low flame, allowing it to boil slowly. Keep the appliance and gold in the solution from ten to fifteen minutes. The appliance will come out with a dark brown color, but after brushing it with a stiff brush, filled with sodium bi-carbonate, it will have a rich gold color.—J. Q. Bryam, Indianapolis, Ind. *Review*.

## SEPARATING MEDIUM.

For separating plaster casts make what might be called a saturated solution of soap suds; strain and add an equal quantity of lard oil and a little coloring if desired. This is simple and inexpensive and separates cleaner than anything I have used. Shake before using if the ingredients separate.—G. E. Warren, *Dental Digest*.

## RETAINING THE RUBBER DAM WITHOUT CLAMP.

I have often used a bit of cotton tied at the centre of the ligature, and found it answers every purpose. This is especially applicable when the rubber dam extends to a bicuspid and saves the use of a clamp. Sandarac varnish applied to the rubber dam about the necks of the teeth will often prevent the slipping off as well as leaking.—J. A. McClain, *International Dental Journal*.

## PULP PROTECTION IN DEEP CAVITIES.

After the cavity is prepared, saturate thoroughly with eau de cologne (alcohol if preferred); mop out the surplus and dry with chip syringe. Before moisture can enter wipe out with oil of cloves on cotton wool. Mix a small quantity of oxid of zinc and oil of cloves to a stiff paste, with which thoroughly cover the dentin. Fill with amalgam after a few minutes.—D. E. Caush, *British Dental Journal*.

## THE BEST AGE FOR REGULATING.

Generally speaking, the younger the age at which regulation is undertaken the better. Teeth should be regulated at the time they are erupting; they are not clasped fully at that time by the alveolus, but are in large open cells and are moved with the utmost

readiness; this is illustrated by the fact of the permanent teeth being so easily deflected by the temporary teeth.—Mr. Badcock, *British Dental Journal*.

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#### ANTISEPTIC ROOT-CANAL FILLING.

Five per cent hydronaphthol added to gutta-percha and made into cones gives all the benefit of a powerful antiseptic in root-canal fillings in conjunction with chloro-percha, and makes a filling which will remain antiseptic after being introduced into the root-canal, and exerts a very powerful antiseptic influence on the surrounding dentin.—Edward A. Royal, *Dental Review*.

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#### STARTING GOLD FILLINGS.

One of the pleasures of filling teeth with gold is to have the first piece remain firm in its proper position in the cavity. There is nothing so effective as a thin layer of cement to aid the operator in starting gold fillings. The cement should be placed in the cavity nearest the pulp and before it becomes hard insert a pellet of gold large enough to lap over the cement, being careful to avoid pressing the cement out over the enamel margins. The gold should not be worked much until the cement becomes too hard to spread. The cement is especially useful in minute cavities, and is a valuable aid in retaining the first pellets of gold in step cavities both in the seat and step.—C. R. Taylor, Streator, Ill. *Review*.

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#### TO MAKE A HANDY MOUTH BLOW-PIPE.

Obtain an old brass bicycle pump and remove the plunger. Unscrew the cap and insert the end of a small mouth blow-pipe (about four inches long) in the hole in the cap as far as it will go. Mark it, cut off the small projecting end and solder to the cap. Now make a hole in the opposite end of the pump large enough to admit the remaining end of the pipe and attach with solder. Obtain some brass wire gauze, roll it with cotton and pack loosely in the pump chamber. Saturate the gauze with gasoline or alcohol and use with an alcohol or gas flame. You will find this a very convenient appliance for soldering at the chair and waxing up cases. Make one when you have time and you will not regret it.—C. J. Hadley, Chicago. *Review*.

### REPLACING A FACING.

Grind the facing to fit the backing without removing the bridge or crown from the mouth. Drill holes in the backing to admit the pins, making them as nearly as possible opposite to and of the same diameter as the pins. After the facing has been ground to fit accurately it can be cemented in place and the pins riveted with a plate punch. A piece of wood, properly shaped, should be used on the labial or buccal surface of the facing to protect it, and with the flat jaw of the punch placed against the wood the pins of the facing can be securely riveted with the pin point.—*E. S. Wingren, Review.*

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### METHOD OF TREATING A CHRONIC ABSCESS.

A chronic alveolar, abscess with fistulous opening, may be cured in one treatment (provided a fairly good communication can be established through the pulp canal and out the fistula) as follows: Open up pulp chamber freely, remove all debris possible from root canal and irrigate thoroughly with your favorite antiseptic wash, being careful to force the liquid through the canal and fistula. Dry the canal as thoroughly as possible, wipe out with carbolic acid, creosote or oil of cloves, and pump chloro-percha through the canal until it appears at the fistula. Insert your gutta-percha canal point and also the permanent filling in the crown, and you can dismiss the patient with the assurance that the fistula will heal from the bottom outwards and disappear entirely in a few days. I have never had this treatment fail.—*Arthur G. Smith, Peoria, Ill. Review.*

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### BRIDGES AND BRIDGES.

We can all learn a lesson by looking at the three bridges which span the Niagara river. One is a suspension, another a cantilever and the third an arch. The engineers who planned them knew exactly what was needed at the various points; also what would best meet the needs, and each bridge is doing its work perfectly. It would be senseless to make them all alike or to substitute one for another. It is just as senseless to say that all bridges in the mouth must be made just the same and upon the same principles. So long as there are differences in the teeth, gums and alveolar processes upon which we operate, so long there must be differences in the structures which we build and the methods we employ. We might just as well plead for uniform shapes of fillings as for uniformity in bridges.—*Dr. A. C. Hewett, Discussion in Digest.*

# NOTICES OF MEETINGS

Institute of Dental Pedagogics, Dec. 28-30, Buffalo.  
Northern Illinois Dental Society, Oct. 21-22, Freeport.  
Southern Illinois Dental Society, Oct. 13-14, East St. Louis.  
Northeastern Dental Association, Oct. 21-23, Cambridge, Mass.  
Seventh and Eighth District Dental Societies of New York, Oct. 27-29, Rochester, Mass.  
Southern California Dental Association, Sept. 28-29, Los Angeles.  
American Society of Orthodontists, Dec. 30-31, Jan. 1st, Buffalo, N. Y.  
Southwestern Iowa Dental Society, Oct. 13-14, Albia, Iowa.  
Sixth District New York Dental Society, Oct. 8-9, Norwich.

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## STATE BOARDS.

Massachusetts State Board, Oct. 28-30, Boston.  
Ohio State Board, Nov. 24-26, Columbus.  
Maryland, Nov. 4-5, Baltimore.  
Dental Commission of Connecticut, Nov. 18-20, Hartford.  
South Dakota, Dec. 8-11, Vermillion; secretary, C. W. Collins, Vermillion.  
Minnesota, Oct. 6, Minneapolis; secretary, C. H. Robinson, Wabasha.  
Illinois, Oct. 15-17, Chicago; secretary, J. G. Reed, 1204 Trude building.  
New Jersey Board of Registration, Oct. 20-21-23, Trenton; secretary, Chas. Meeker, Newark, N. Y.

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## NATIONAL ASSOCIATION OF DENTAL EXAMINERS.

It is earnestly requested that all the secretaries of the Boards of Examiners throughout the states and territories mail to the secretary all changes in their respective boards, and greatly oblige.

CHAS. S. MEEKER, Secretary,  
29 Fulton St., Newark, N. J.

### DENTAL ASSOCIATION OF THE PROVINCE OF QUEBEC.

The above named society met in the early part of September and elected the following officers: Dr. G. E. Hyndman, president; Dr. F. A. Stevenson, vice-president; Dr. E. Dubeau, secretary, and Dr. J. G. Gardner, treasurer.

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### NORTHERN ILLINOIS DENTAL SOCIETY,

The sixteenth annual meeting of the Northern Illinois Dental Society will be held at Freeport, Oct. 21-22, 1903. Meet with us and enjoy the good program of papers and clinics that has been prepared.

A. M. HARRISON, Secy., Rockford.

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### INSTITUTE OF DENTAL PEDOGOGICS.

The next annual meeting of Dental Pedagogics will be held at Buffalo, Dec. 28-29, 1903. An exceedingly interesting program is being arranged, details of which will be published in the different journals.

W. H. WHITSLAR,

Chairman Ex. Board, Cleveland, O.

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### THE FIRST DISTRICT DENTAL SOCIETY.

The First District Dental Society met at Macomb, Ill., Sept. 15th and 16th. The next meeting will be held at Quincy. The following officers were elected: President, H. W. McMillan, Roseville; vice-president, W. W. Morehead, Aledo; secretary, J. W. Marsh, Warsaw; treasurer, J. D. McMillan, Macomb; executive committee, H. F. Nauman; Quincy committee on Dental Art and invention, C. E. Stephan, Pekin; committee on science and literature, A. G. Smith, Peoria.

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### NORTHERN INDIANA DENTAL SOCIETY.

At the meeting of the Northern Indiana Dental Society, held at Wabash, September 15th and 16th, 1903, the following officers were elected to serve for the ensuing year: President, S. B. Hartman, Fort Wayne; vice-president, J. A. Stoeckley, South Bend; secretary and treasurer, Otto U. King, Huntington; supervisor of clinics, L. A. Salisbury, Crown Point. To serve with the above officers, as members of the executive committee: A. H. Wagner, Huntington; M. Wilson, Rochester; C. E. Redmon, Peru; J. W. Stage, Goshen; M. W. Strauss, Huntington; Otto W. King, Sec'y.

## NORTHERN IOWA DENTAL SOCIETY.

The September meeting of the Northern Iowa Dental Society was one of the most profitable meetings ever held in Iowa. The society made a three-days' school and conducted classes in operative and prosthetic dentistry. The operative class occupied the forenoons with lectures and infirmity practice under Dr. E. K. Wedelstaedt, assisted by several competent demonstrators. The prosthetic class filled the afternoons with lectures and class work on porcelain art, both technical and practical, under the able leadership of Dr. J. H. Prothero.

With the kind assistance of friends from Illinois, Missouri and Minnesota, we certainly had a meeting long to be remembered.

Twenty-five new names were added to our list of members, making a total of nearly two hundred. The next place of meeting will be Waterloo. The officers for the ensuing year are: President Wm. Finn, Cedar Rapids; vice-president, A. W. Beach, Sheldon; secretary, C. L. Topliff, Decorah; treasurer, H. W. Riser, Lansing.

## ONTARIO DENTAL ASSOCIATION.

At the meeting of the Ontario Dental Association, the following officers were elected for the ensuing year: President, Dr. Gunn, Lancaster; vice-president, Dr. Mitchell, Perth; secretary, Dr. Ravangah, Cornwall; supervisor of clinics, Dr. Winnett, Kingston; ethical committee, Dr. Hanna of Kemptville and Dr. Bower of Ottawa.

## MINNESOTA STATE DENTAL ASSOCIATION.

Dr. J. M. Walls of St. Paul was elected president of the Minnesota Dental Association at the closing session of the twentieth annual convention of the association. Dr. H. B. Child of Minneapolis was elected vice-president; Dr. G. S. Todd of Lake City, secretary, and Dr. H. M. Reed of Minneapolis, treasurer.

Before adjournment Dr. S. R. Holden of Duluth was recommended to the governor for appointment upon the state dental examining board, and Dr. C. A. Van Duzee of St. Paul was indorsed







# OBITUARY

## DR. EUGENE L. CLIFFORD.

Dr. Eugene L. Clifford died suddenly at his residence, 2784 North Hermitage avenue, Ravenswood, August 14th, 1903, aged 49. The cause of his death was an overdose of morphine taken to relieve intense neuralgia. Few dentists were more familiar with all sorts of drugs and medicines and their action than Dr. Clifford, for he had given special study to materia medica and was himself an author of a text-book of that nature for the use of dentists and dental students; and yet over-confidence in his ability brought him unexpectedly to his end in the prime of life. When he realized, as he did, that his judgment in treating himself had not been good a physician was sent for, but too late. It is a well-grounded rule in medicine that no man, no matter how well informed he may be in drugs and physical ailments, is qualified to treat himself. When one is ill, both body and mind may be affected, and Dr. Clifford underestimated the danger and paid the penalty of his temerity.

He was born October 24th, 1854, at Clinton, Louisiana. His father, Dr. B. F. Clifford, was a dentist prominent in the south. Eugene was educated in private institutions in his native state. In the study of dentistry he attended the Pennsylvania College of Dental Surgery, graduating with honors. In 1883 he came to Chicago and has practiced his profession here since that time, with offices in the Venetian building. He leaves a widow and one son.

Dr. Clifford was a gentleman of considerable literary ability, and an able and fluent speaker, whose voice was often heard in dental societies and conventions. He was a member, and active, in several secret orders in which he gained prominence, and at the time of his death was the grand chaplain of the Royal Arcanum of Illinois, and the Grand Council of that order officiated at his burial.

Dr. Clifford had many friends in Chicago and elsewhere in his profession and outside of it, and was highly esteemed and will be sadly missed by a wide circle of acquaintances.

## DR. J. FRANK MARINER.

Dr. J. Frank Mariner died Sept. 13th at 7141 Eggleston avenue, Chicago. Dr. Mariner was born in Maine and removed to Ottawa, Ill., in 1857. He practiced his profession there until the outbreak of the civil war, when he enlisted in an Illinois regiment.

He served through the war, rising to the rank of lieutenant major, and being appointed to General Grant's staff. He returned to Ottawa at the close of the war and resumed his dental practice, remaining there until about fifteen years ago, when he removed to Chicago. Dr. Mariner was an early member and organizer of the Illinois Dental Society, and filled successively most of its offices, including that of president. He was prominent in Grand Army and Odd Fellow circles, being a member of Columbia Post, G. A. R., and Kenwood Lodge, I. O. O. F. He is survived by his widow, two daughters, Mrs. Ethel Mitchell and Miss Belle Mariner, and a granddaughter, Miss Isabel Mariner.

#### DR. CHARLES HOUGHTON.

Dr. Charles Houghton, one of the oldest practicing dentists in western New York, and for many years a highly respected resident of Batavia, died Sept. 17th of a complication of diseases, aged 65 years. Dr. Houghton had been ill for the past three weeks, gradually failing until the end came.

He was born in Manlius, Onondaga county, March 28, 1833. In 1838 he removed with his parents to Holland, Erie county. He completed his education in the Lima Seminary and began the practice of dentistry in Attica. He removed to Batavia in 1866 and he had been a resident of this village ever since. For over 20 years he had been associated with Dr. Dewey, under the firm name of Houghton & Dewey, and he practiced his profession until three weeks ago, when he was stricken with his fatal illness.

He was highly respected both as a citizen and professional man. He was a member for years of the Eighth District Dental Society, one of the strongest dental associations in the United States. He was a member of the Methodist Church, a member of the A. O. U. W., and was one of the first directors of the Genesee Permanent Loan Association.

#### DR. WILL PEARCE.

Dr. Will Pearce, a dentist of Columbus, Ga., died at that place Sept. 9th. Dr. Pearce was a graduate from the Baltimore Dental College.

#### DR. P. FULLER.

Dr. P. Fuller of Chagrin Falls, Ohio, died at that place Sept. 22, after an illness of one week. Dr. Fuller was sixty-seven years of age and had practiced dentistry at Chagrin Falls for twenty-five years.

#### DR. C. W. CASE.

Dr. C. W. Case of Cardington, Ohio, died suddenly Sept. 18th. He was 65 years of age, had practiced dentistry at Cardington for forty years and had served five terms as mayor of the city.

## PERSONAL AND GENERAL

### MARRIAGES.

Dr. W. H. Shaffer, a Chicago dentist, to Miss Mabel Mason of Prairie View, Ill.

Dr. Albert Hallenberg of Fargo, N. D., to Miss Pearl Childs of Chicago, September 2.

Dr. F. McCluskey of Glenwood, Iowa, to Miss Nellie Tonner of Red Oak, Iowa, September 9.

Dr. C. M. Snyder of Waterloo, Iowa, to Miss Anna Belle Stewart of the same place, September 15.

Dr. Elmer E. Schwarz of Edwardsville, Mo., to Miss Edna Donoho of Troy, Mo.

Dr. Clark M. Leiblee of Columbus, Ohio, to Miss Edna O'Fallon of the same place, September 14.

Dr. John J. Clemmer of Marshalltown, Iowa, to Miss Maude May Rothert of Cresco, Iowa, September 29.

Dr. Charles Possteuscher, a dentist of Omaha, Neb., was married September 5 to Miss Margaret Dulin of Lake Okoboji.

Dr. and Mrs. Isaac Douglas of Romeo, Mich., celebrated their golden wedding anniversary October 2.

Dr. Morenzo Ozaki, a Japanese dentist, of Philadelphia, was married September 24 to Miss Elizabeth Dawson of the same place. Miss Dawson is a native of Cambridge, England, and Dr. Ozaki was born in Hiraka, Nangano-Ken, Japan.

Dr. Sidney Green, of Pineville, Ky., a dentist, accidentally shot himself while handling a revolver, Aug. 18th. The wound, while of a serious nature, is not considered fatal.

Doctors are puzzled over the case of Theodore Keller of Hoboken. Keller has been dumb since June 2, when he had one of his molars extracted by a dentist in his town. It was such a big molar that great force had to be used in extracting it.

### PARTNER OF DENTIST CHARGES EMBEZZLEMENT.

Dr. Charles M. McDonald, who formerly conducted a dental parlor in Pittsburg, was held in \$500 bail on a charge of embezzlement. F. W. Guibert claims he installed McDonald as manager, with an agreement that they were to divide the profits. McDonald, according to Guibert, failed to do this, and is short in his accounts \$350.

### DENTISTS OF COUNCIL BLUFFS ORGANIZE.

The Council Bluffs dentists have formed an association for mutual benefit with the following board of officers: President H. S. West; vice presi-

dent, C. E. Woodbury; secretary-treasurer, R. O. Williams. [The preliminary meeting of organization was held in the office of Dr. Hamilton.

#### DIED IN A DENTIST'S CHAIR.

Mrs. Emma Cunliffe, whose husband, Robert Cunliffe, resides at 1902 Iseminger street, Philadelphia, died suddenly in the office of Dr. Bauman, of Telford, Pa., Aug. 13. For several days Mrs. Cunliffe had been suffering with neuralgia of the face, and decided to have a number of teeth extracted. The woman expressed a desire that chloroform should be used. The physician examined the patient, and was of the opinion that her heart was not affected, and administered the drug. After extracting the teeth Dr. Bauman was unable to restore consciousness. The woman failed to rally, and expired in about half an hour after the drug was administered. Coroner Kene did not hold an autopsy, believing Dr. Bauman exercised due care.

#### DENTIST'S LIFE'S SUNNY SIDE.

Yes, there's a sunny side of life, even to a man with the toothache," said a Montague street real estate broker; "you may not think it, but there is."

He went on: "Of course, you find it at the dentist's. I went to one on Fulton street. He has extracted over 300,000 teeth in the course of his professional life, perhaps more than any other man in the world. He isn't the executioner type at all. Whether it's the laughing gas that developed his easy smile, I can't tell. But you go to him suffering the agonies of an undesirable hereafter, and before his finger has touched your lower jaw you begin to be relieved. In fact, I've known people who lost their pain entirely while waiting in his little ante-room. His smile is contagious.

"The relief after the tooth is out has something ecstatic about it—balances in a measure, what you have suffered before. And between the laughing gas and the smiling dentist you don't mind the process of extraction. By the way, the dentist told me a story too good to keep, about a brother practitioner who has a boy 4 years old. The youngster had an aching tooth. He cried over the idea of losing it. The father said, 'If I could do you any good by it, I would rather have one of my own pulled instead.' 'I would, too,' cried the boy, 'I'd rather you had a whole mouthful pulled.' Childhood is always selfish. You see that boy hadn't learned to look at the sunny side of toothache."

Dr. W. P. Horton, a dentist in Cleveland, has the collection habit, and has made a collection of forceps, some of which were used to pull teeth four hundred years ago. From that time to the present each change is represented.

Dr. Clara Duth, formerly of Elmwood, Ill., is now located at Peoria.

Dr. Ernest P. Dameron of St. Louis has been appointed to membership on the Missouri state board, caused by the resignation of Dr. B. L. Thorpe.

Dr. F. J. Patterson, who has been with a Chicago dental supply house for several months recuperating from the results of too close confinement in his practice, has returned to Mendota and resumed practice.

Dr. Rockafellow has resigned his position on the board of trustees and in the faculty of the Des Moines Dental college, and will travel in the south and west during the winter.

Dr. B. J. Cigrand has been appointed a member of the Chicago Public Library Board.

Knowing his own failing, a dentist in Quenemo, Kan., publishes the following card in his local paper: "I kindly ask all my patrons and friends to not bring any intoxicant to my office. While I know many wish a stimulant when having teeth extracted, I wish they would take it before coming to my office. It is a temptation that I would like to resist, and kindly warn all to refrain from bringing it to or about my office.—E. F. Medearis."

#### DENTIST KILLS HIMSELF.

Dr. C. H. Marshall, dentist, aged 36, shot himself through the head September 23 and died two hours later. All indications point to the deed having been premeditated and as apparently due to despondency over ill health. Dr. Marshall was born at Aurora, Ill., and for several years practiced his profession in Chicago. He had been a resident of Toledo, Ohio, about a year. The doctor's mother and his sister, Kate Marshall, reside at Aurora, Ill.

Robberies.—Charles Dundas, Los Angeles, Cal., Sept. 1, \$57.—Willet & Stephens, Pekin, Ill., Aug. 29, \$25.—D. Baldwin, Peoria, Ill., Sept. 4, \$50.—W. C. Thomas, Alexandria, Ind., Sept. 8, \$200.—D. G. Mahood Webster City, Ia., Sept. 15, \$125.—E. N. Clarke, Tauton, Mass., Sept. 1, \$60.—A. E. Threfof, Niles, Mich., Aug. 21, \$70.—E. Kuper, Maplewood, Mo., Aug. 30, \$75.—P. Helmuth, St. Louis, discovered a thief in his office Sept. 2 when he returned from luncheon. The burglar rushed downstairs, but the doctor took the elevator and caught him on the ground floor.—F. A. Upham, Nashua, N. H., Aug. 20, \$40.—W. T. Reynolds, Amsterdam, N. Y., Sept. 6, \$100.—Quinlan Dental Co., Amsterdam, N. Y., Sept. 6, \$45.—A. D. Young, Amsterdam, N. Y., Sept. 12, \$50.—R. E. Duignan, Gloversville, N. Y., Sept. 7, \$40.—R. D. Sayre, Gloversville, N. Y., Sept. 7, \$90.—W. E. Lansing, Gloversville, N. Y., Sept. 7, \$150.—A. B. Cowles, Rome, N. Y., Sept. 6, \$150.—L. H. Jones, Rome, N. Y., Sept. 7, \$50.—E. A. Smith, Rome, N. Y., Sept. 6, \$80.—Cain & Hill, Canton, O., Aug. 25, \$200.—Thomas Morgan, Sharon Pa., Sept. 6, \$15.—E. & M. H. Wightman, Pawtucket, R. I., Aug. 27, \$500.—*Dental Digest*.

#### THE STRANGE CASE OF DR. EUSTIS.

By Howard W. Lancaster, D. D. S.

Fate, or Destiny, or whatever it is that rules the lives of men, sometimes seems to have a penchant for placing, or rather misplacing, some soul in an environment or vocation that is utterly discordant with its nature. And while this is doubtless true in many instances it is equally true that Nature, discovering her mistake, as it were, almost invariably rights the error even though the means be obscure and the occasion delayed.

In the strange case of Dr. Eustis may be found an instance.

It would be hard to determine just what occupation would have been best fitted for Dr. Eustis. As it was, he was a dental surgeon. Tall and thin

and pale; delicate, almost sickly; irritable, though not disagreeable. He had a peculiar dislike and aversion to even the slightest intercourse with his professional brethren, although there are few who do not know of him. One rather remarkable thing in regard to the doctor was that, although there was almost absolutely no harmony between him and his occupation, he nevertheless was a practitioner of high standing, both as to his ability and his clientele.

No one knew just how this sensitive and often melancholy man happened to adopt his profession, or how his profession adopted him, but the circumstances under which he retired from practice were of such a nature as to become a part of dental tradition.

If Dr. Eustis had taken a train for his down-town office a few minutes earlier, or a few minutes later, on the morning of the second of February 18— he might still be alive. As it happened, it transpired in his case, as it has some time or other with most of us, that a seemingly trivial and almost unconscious change of mind as to a preference for this car or that proved ultimately to be of the deepest import in its bearing on subsequent events. When the doctor selected a seat on one of those long benches which run lengthwise of the car he began reading the headlines of the morning paper. As often occurs, in certain, or rather uncertain and restless moods, we are able to get all we care to out of a newspaper in a very few minutes. It was so that morning with Dr. Eustis. As soon as he had read the paper to his satisfaction he settled back in his seat and began a survey of his fellow passengers in the car. His attention became centered upon a man on the seat opposite and more particularly upon a huge, red wart which hung by a very slender, thread-like piece of skin from the clean-shaven, right cheek of this same man.

It is given to some souls to suffer, as some would say, foolishly, but none the less acutely. Perhaps it was the new Chinese laundry sign between the doctor's house and the station which was the cause of his being unusually irritable that morning. He had noticed it as he passed. It was the conventional sign in red and white—they all seem to have been painted by the same hand, and with that rollicking disregard for the symmetrical, much like Chinese music—and it certainly must have clashed seriously with Dr. Eustis's attenuated sense of the aesthetic. At all events the doctor found it impossible to keep his eye and mind from the red wart. His first impression was in the nature of a shudder at the ugliness of the thing, and this soon ripened into a violent impulse to snatch the wart from the cheek, but on second thought he reasoned that it, itself, was not really the seat of the offence, but that it rested with the individual who permitted himself to be thus disfigured.

The doctor tried various expedients to divert his attention into other channels. He closed his eyes and pictured to himself Benjamin Franklin as he was sending his scientific kite into the clouds. He watched him as with intent and eager expectation he fed the kite-string to the air. But then the thought occurred to him—the wart—how long had it been there. Perhaps thirty years, he reasoned, if the man was then fifty. Next he imagined the

legions of Hannibal marching, the sunlight glinting on their swords, and he counted them as they passed. But again the wart—how much energy and care had been expended by how many different barbers through all these years in their effort not to sever the infernal thing from the cheek. And then, perhaps, he shaved himself.

If there was anything the doctor hated above anything else it was figures; but ere he knew, he was irresistibly led into figuring out in his mind by the most devious mathematical processes how many times the man had shaved himself in these thirty years and how many times he had drawn the blood from the huge red thing and yet preserved it. It was at this point that he began to feel his whole being arousing itself into an almost insane desire to strangle the man where he sat. With an effort he restrained himself and made his way into the smoker where he lighted a cigarette and consumed perhaps three or four by the time he arrived at his destination.

During the noon hour on this same day, while his assistant was out at lunch, the doctor was quite surprised on looking up from his desk to see the man with the wart enter. He expressed a desire to have a tooth extracted and the doctor thought as he spoke that he caught an expression in the man's eye as though the man had recognized him as his fellow passenger in the train.

The man with the wart seated himself in the operating chair, and, instead of indicating the locality of the particular tooth in question by uttered speech, as invariably would a person of culture, he thrust a grimy finger into his mouth back somewhere in the region of the ear. The doctor administered an anaesthetic and removed the tooth.

When the assistant returned from lunch, on entering the operating room he saw a man sitting in the chair as though asleep. There was a spot of blood on the right cheek and one eye was open, the eye-lid suspended by the bright steel handle of an instrument the point of which rested in the brain.

On the couch in the retiring room lay Dr. Eustis motionless and quite cold. Upon his lips was a bluish stain as from some potent poison, and clinging to the nail on the index finger of the left hand was a huge wart turned almost black.



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